Drinking Water Surveillance Program

TRENTON WATER TREATMENT PLANT

Annual Report 1989

Ontario
Environment
Environnement

ISSN 1180-212X

TRENTON
WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1989

Cette publication technique n'est disponible qu'en anglais.

December 1990

Copyright: Queen's Printer for Ontario, 1990
This publication may be reproduced for non-commercial purposes
with appropriate attribution.

PIBS 1390

92-01630/

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

TRENTON WATER SUPPLY SYSTEM
1989 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, there were 65 supplies being monitored.

The Trenton Water Supply System treats water from five separate and unique sources. The Filtration Plant uses conventional treatment to treat water from the Trent River. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. The Sydney Street well is an east side ground water source, water is chlorinated and pumped directly into the distribution system where it mixes with water produced from the filtration plant. The Victoria Street pumping station is a west side ground water source, water from the Murray Wells are recharged from Tremur Lake and mixed with mountain spring water. The Trenton plant has a design capacity of 22.7 X 1000 M^3/day and the Victoria Street pumping station has a design capacity of 11.4 x 1000 M^3/day. All sources supply a population of approximately 20,000.

Water samples from the filtration plant: raw and treated; Victoria Street pumping station: raw and treated and two distribution system sites were taken on a monthly basis and analysed for 180 parameters. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organic (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Chlorophenols and Specific Pesticides were analysed in June and November only.

A summary of results is shown in Table A.

Inorganic and Physical parameters were below any applicable health related ODWOs.

Of a total of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

During 1989 the DWSP sampling results indicated that the Trenton Water Supply System produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

SUMMARY TABLE BY SCAN

SCAN	FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
	RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
	TESTS	POSITIVE	%POS	TESTS	POSITIVE	%POS	TESTS	POSITIVE	%POS	TESTS	POSITIVE	%POS	TESTS	POSITIVE	%POS	TESTS	POSITIVE	%POS
BACTERIOLOGICAL	36	29	80	36	12	33	33	12	36	36	17	47	36	11	30	34	7	20
CHEMISTRY (FLD)	35	35	100	72	72	100	110	91	82	34	34	100	67	67	100	132	117	88
CHEMISTRY (LAB)	252	218	86	249	189	75	406	356	87	252	192	76	252	186	73	444	387	87
METALS	288	146	50	288	129	44	517	295	57	288	133	46	288	129	44	564	300	53
CHLOROAROMATICS	154	0	0	154	0	0	140	0	0	154	0	0	154	0	0	154	0	0
CHLOROPHENOLS	18	12	66	18	11	61	.	.	.	18	4	22	12	6	50	.	.	.
PAH	190	0	0	189	0	0	.	.	.	189	0	0	189	0	0	.	.	.
PESTICIDES & PCB	382	0	0	387	0	0	288	0	0	387	0	0	387	0	0	322	0	0
SPECIFIC PESTICIDES	39	0	0	39	0	0	10	0	0	39	0	0	11	0	0	11	0	0
VOLATILES	377	1	0	377	39	10	319	41	12	348	3	0	348	44	12	319	43	13
TOTAL	1771	441		1809	452		1823	795		1745	383		1744	443		1980	854	

NO KNOWN HEALTH RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

TRENTON WATER SUPPLY SYSTEM
1989 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, there were 65 supplies being monitored. Appendix A carries a fill description of the DWSP.

The DWSP was initiated for the Trenton Water Supply System in January of 1989.

This report contains information and results for 1989.

PLANT DESCRIPTION

The Trenton Water Supply System treats water from five separate and unique sources. The Filtration Plant uses conventional treatment to treat water from the Trent River. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. The Sydney Street well is an east side ground water

source, water is chlorinated and pumped directly into the distribution system where it mixes with water produced from the filtration plant. The Victoria Street pumping station is a west side ground water source, water from the Murray Wells are recharged from Tremur Lake and mixed with mountain spring water. The Trenton plant has a design capacity of 22.7 X 1000 M^3/day and the Victoria Street pumping station has a design capacity of 11.4 x 1000 M^3/day. All sources supply a population of approximately 20,000.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

SAMPLE LOCATIONS

Water samples were obtained from six DWSP approved locations;

a) Water Treatment Plant

i) Raw - The water originated from the lowlift discharge prior to chlorination and was sampled through a stainless steel sample line. Sample taps are located on each pump in the lowlift building.

ii) Treated - The water originated from the highlift discharge after addition of all treatment chemicals and was sampled through a stainless steel sample line. Sample taps are located on each highlift pump.

iii) Site 1 - This site is approximately 1.5 kilometers from the filtration plant and may receive water from both the plant and the Sidney Street well. Water is sampled through copper plumbing , the sample tap location is unavailable.

b) Victoria Street Pumping Station

i) Raw - The water from the Murray Wells is recharged with water from Tremur Lake, this water is pumped to the chlorine contact chamber where it mixes with the mountain spring water. Water was sampled through stainless steel sample lines located on each well pump.

ii) Treated - The water originated from the highlift pump discharge and was sampled through a stainless steel sample line. The sample tap is located in the pump house.

ii) Site 2 - This site is approximately 1.0 kilometers from the Victoria Street pumping station. Water is sampled through copper plumbing, the sample tap is located in the upstairs kitchen.

SAMPLING AND ANALYSIS

Sample lines in the plant and at the pumping station were flushed prior to sampling to ensure that the water obtained was indicative

of its origin and not residual water standing in the sample line.

At all distribution system locations two types of samples were obtained: a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which the levels of inorganic compounds and metals may be changed on standing, due to leaching from (or deposition on), the plumbing system. The only analysis carried out on the standing samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing at the sample tap for five minutes before being sampled.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the plant was five hours then there would be a five hour interval between the raw and treated sampling. Similarly, if it was estimated that it took approximately one day for the water to travel from the plant to the distribution system site, this site would be sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to ensure that all samples were taken in a uniform manner.

Plant operating personnel perform analyses on parameters for process control (Table 1).

The Trenton Filtration Plant, raw and treated water, Victoria Street pumping station, raw and treated water and two distribution system locations were sampled for approximately 180 parameters on a monthly basis beginning in January. The Specific Pesticides and Chlorophenols scans were sampled in June and November only. Polynuclear Aromatic Hydrocarbons and Phenolics are only analysed in the raw and treated water at the plant.

RESULTS

Field measurements were recorded on the day of sampling and were entered onto the DWSP data base as submitted by plant personnel.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

TRENTON WATER SUPPLY SYSTEM

FIGURE 2

TRENTON FILTRATION PLANT

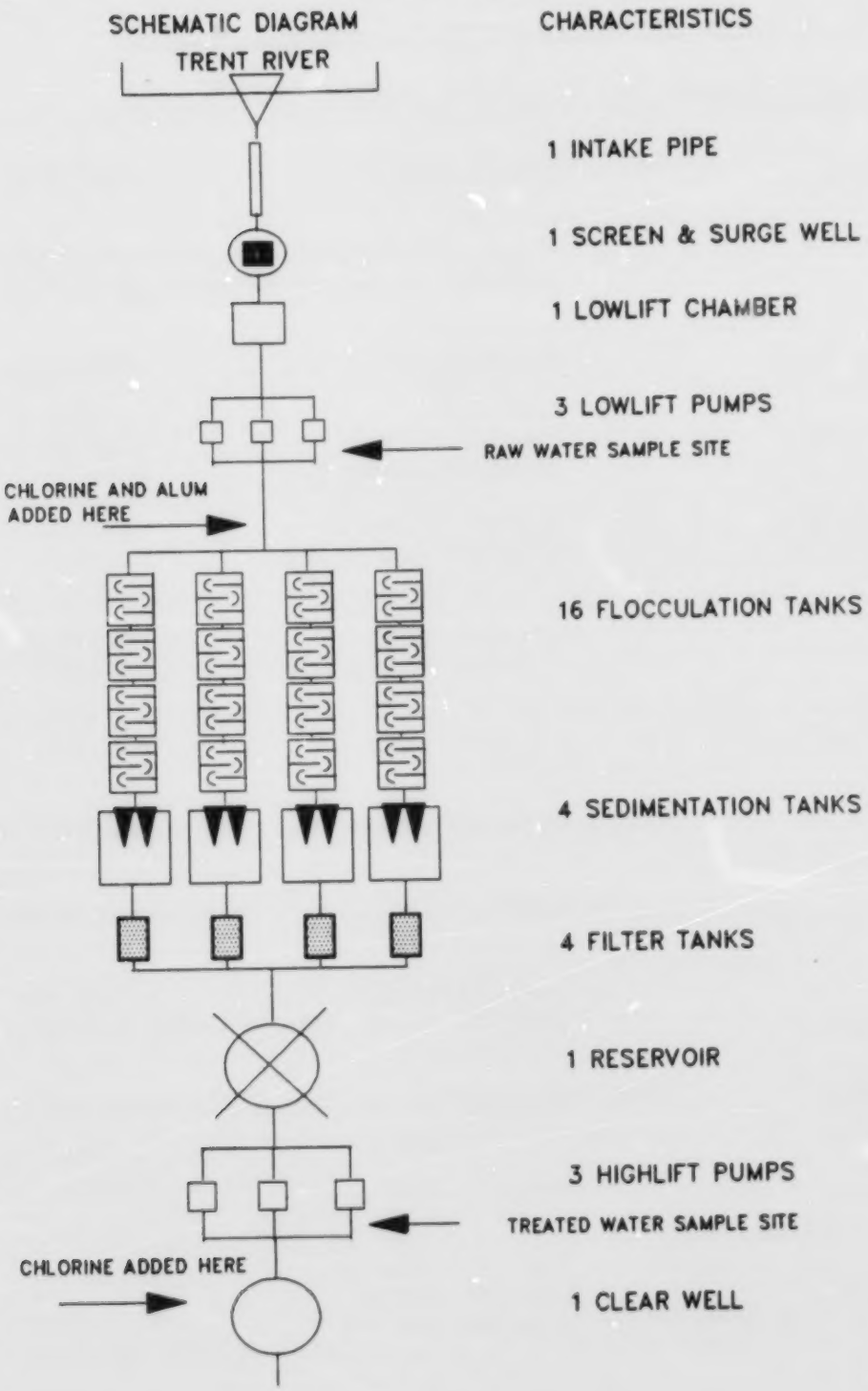


TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

PLANT MONITORING TRENTON WATER SUPPLY SYSTEM 1989

PARAMETER	LOCATION	FREQUENCY
Alkalinity	Victoria St treated	periodoc
	Filtration plant treated	periodic
Aluminum Residual	Treated water tap	periodic
Chlorine - free	Top of filter	hourly
	Treated water tap	hourly
- total	Top of filters	hourly
	Treated water tap	hourly
Colour	Lowlift pump	periodic
	Treated water tap	periodic
Hardness	Lowlift pump	periodic
Iron	Treated water tap	periodic
Nitrates	Sidney Street well	weekly
pH	Lowlift pumps	every 4hr
	Treated water tap	" "
Taste and Odour	Treated water tap	periodic
Temperature	Lowlift pump	hourly
Turbidity	Top of filters	every 2hr
	Lowlift pumps	" "
	Treated lab tap	" "

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

TRENTON WATER SUPPLY SYSTEM

LOCATION:	50 ELGIN STREET TRENTON, ONTARIO K8V 3X9 (613-392-4978)
SOURCE:	RAW WATER SOURCE - MULTIPLE TRENT RIVER GROUND WATER TREMUR LAKE MOUNTAIN SPRING
DESIGN CAPACITY:	FILTRATION PLANT 22.7 x 1000M^3/DAY VICTORIA STREET 11.4 x
1000M^3/DAY	
OPERATION:	MUNICIPAL
PLANT SUPERINTENDENT:	S. MCDONALD
MINISTRY REGION:	SOUTHEAST
DISTRICT OFFICER:	MR. J. BISHOP

MUNICIPALITY SERVED	POPULATION
TRENTON	15,000
CANADIAN FORCES BASE	5,000

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analysed in the DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWO's) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameter Listing System (PALIS)

recently published (ISBN 0-7729-4461-X) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Although some of the parameters measured on DWSP may be present in the raw and treated water as a result of pollution, many of the compounds detected are naturally occuring or are treatment by-products.

Plant operational personnel address occurrences of taste and odour or biological water quality parameters. The DWSP does not assess these aspects of the water supply.

As stated under Results, traces do not indicate quantifiable results as defined by established MOE laboratory analytical reporting protocols. While they can be useful in trend analysis or confirmation of the presence of a specific contaminant that is repeatedly detected at these levels, the occasional finding of a trace level of a contaminant is not considered to be significant. **DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.**

Bacteriology

Positive results for the Bacteriology scan were present twelve times in the treated water from the plant and twelve times in the

Site 1 water, eleven times in the treated water from Victoria Street and seven times in the Site 2 water. The positive parameters were Standard Plate Count, Total Coliform and/or Total Coliform Background.

Total Coliforms were detected by the membrane filtration test in the February treated water sampled at the plant and in the Site 1 sample, Total Coliforms were also detected in the September and October treated water at Victoria Street and in the October sample from Site 2. The District Officer was notified. Samples taken on the same date and sent to the Kingston laboratory as part of the municipality's routine bacteriological sampling showed no presence of coliforms.

Standard Plate Count is a test used to supplement routine analysis for Coliform bacteria. The limit for Standard Plate Count (at 35°C after 48 hours) in the ODWOs is 500 organisms per mL (based on a geometric mean of 5 or more samples). High Standard Plate Counts were present in six plant treated water samples, four Site 1 water samples, three Victoria Street treated waters and two Site 2 water samples. While no indicators of unsafe water were detected at this time, the high Standard Plate Count may generally be a result of the higher temperatures in the summer months. A total Chlorine Residual of at least 0.05 mg/L was detected in all water samples. No samples contained bacteriological results over any applicable health related ODWOs. These limited results may indicate some

deterioration in treated and distributed water quality, particularly in the summer months.

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality; the routine monitoring program usually requires the taking of multiple samples in a given system. Full interpretation of bacteriological quality cannot be made on the basis of single samples. Further, bacteriological limits were developed in acknowledgement that the presence of coliforms may be detected due to their non-uniform distribution throughout the distribution system and the fact that their enumeration is subject to considerable variation. For these reasons, the occasional finding of low numbers of coliform organisms is not unexpected. Routine bacteriological monitoring, as outlined in the ODWOs is carried out by the operating authority.

Inorganic and Physical

Laboratory and Field Chemistry

The results for the Laboratory Chemistry and Field Chemistry scans were below any applicable health related ODWOs.

The aesthetic ODWO of 5 True Colour Units (TCU) was exceeded once in the July treated water sampled at the plant and twice in the Site 1 free flow water. Colour in drinking water may be due to the

presence of natural or synthetic organic substances as well as certain metallic ions.

The ODWO recommend a hardness level of between 80 and 100 mg/L as calcium carbonate for domestic waters, to provide an acceptable balance between corrosion and incrustation. Water supplies with a hardness greater than 200 mg/L are considered poor, and would possess a tendency to form scale deposits and result in excessive soap consumption. The treated plant water had hardness values ranging from 110 mg/L to 136 mg/L, the Victoria Street treated water had hardness values ranging from 223 to 284 mg/L.

The European Economic Community (EEC) aesthetic guideline level for Conductivity of 400 mho/cm was exceeded in samples from Victoria Street. Elevated conductivity is often associated with high hardness levels.

The Langelier Index is used extensively in estimating the corrosion potential of water. An increasingly negative index indicates the increasing possibility of corrosion. It is considered sound engineering practice to maintain a slightly positive Langelier Index. The Langelier Index for the filtration plant treated water is positive nine times out of twelve and always positive for the Victoria Street water.

It is desirable that the Temperature of drinking water be less than

15°C; the palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water. The desired ODWO was exceeded five times in the plant treated water, three times in the Site 1 free flow water, three times in the Victoria Street treated water and four times in the Site 2 free flow water.

Turbidity in water is caused by the presence of suspended matter such as clay, silt, colloidal particles, plankton and other microscopic organisms. The most important potential health effect of Turbidity is its interference with disinfection in the treatment plant and the maintenance of a chlorine residual. The ODWO of 1 Formazin Turbidity Unit (FTU) is only applicable to treated water leaving the plant. Although several laboratory turbidity values were reported higher than 1 FTU the corresponding field turbidity values did not support the lab results. Protocol for turbidity states that measurements should be made within 48 hours. This is not always achieved except when measured in the field, the field turbidity values therefore are considered more reliable.

Metals

The results reported for the Metals scan were below any applicable health related ODWOs.

Iron and Manganese levels were lower in the plant treated water as compared to the raw water. This is a result of the treatment process. The addition of Alum as a coagulant to the raw water and the resulting coagulation/settling process has been shown to reduce the levels of most metals.

Elevated levels of Copper, Lead and Zinc were detected in the standing samples as compared to the free flow distribution samples, indicating that very small quantities of these metals were leached from the household plumbing as the water stood overnight. Nickel levels in most of the Site 1 standing water samples were unusually high. The source could be the plumbing fixtures. Although the Langelier Index indicates minimal potential for corrosion some metals will be leached in standing samples in most supplies.

Comparison of the values reported for copper as well as several other metals indicate that the December standing and free flow samples from Site 1 were reversed.

At present, there is no evidence that Aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of residual Aluminum in the treated water is important

to indicate the efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 100 µg/L as Al in the water leaving the plant to avoid problems in the distribution system. Aluminum values exceeded the ODWO operational guideline eleven times in the plant treated water.

Organic Parameters

Chloroaromatics

The results of the Chloroaromatics scan showed that no chloroaromatics were detected.

Chlorophenols

The results of the Chlorophenols scan showed that no Chlorophenols were detected.

The maximum desirable concentration of phenolic substances in drinking water is 2.0 µg/L. This limit has been set primarily to prevent the occurrence of undesirable tastes and odours, particularly in chlorinated water. Phenolics were detected at levels ranging from 1.4 to 4.6 µg/L in the plant raw water, from 1.2 to 11.6 µg/L in the plant treated water, 1.0 to 3.0 µg/L in the Victoria Street raw water and 1.2 to 5.6 µg/L in the Victoria Street treated water. Phenolics were detected at trace levels, once in the plant treated water, eight times in the Victoria Street raw water and four times in the treated water.

Pesticides and PCB (Polychlorinated Biphenyls)

The results of the Pesticides and PCB scan showed that no PCBs were detected and that two pesticides were detected:

Alpha BHC

Lindane

There are several isomers of BHC (Benzene Hexachloride); gamma BHC is the active ingredient of the pesticide Lindane; while alpha BHC is the isomer predominantly found in surface waters from the Great Lakes Basin as indicated in results from other water supplies on DWSP.

Alpha BHC was detected at trace levels, once in the plant raw water, five times in the plant treated water and once in the Site 1 water.

Lindane was detected at a trace level, once in the plant treated water.

Specific Pesticides

Results of the Specific Pesticides scan showed that no specific pesticides were detected.

Polynuclear Aromatic Hydrocarbons (PAHs)

The results of the PAH scan showed that no PAHs were detected.

Volatiles

The results of the Volatiles scan showed that six parameters, other than Trihalomethanes(THMs), were detected:

Benzene

Toluene

Ethylbenzene

Styrene

1,1,1 Trichloroethane

Tetrachloroethylene

Benzene was detected at trace levels, once in the plant raw water, once in the Site 1 water and once in the Victria Street treated water.

The detection of toluene at low, trace levels is a laboratory artifact derived from the analytical methodology.

Ethylbenzene was detected at trace levels, twice in the plant treated water, twice in the Site 1 water, five times in the Victoria Street raw water and twice in the Site 2 water.

The detected trace levels of Styrene are also considered to be laboratory artifacts resulting from the polystyrene shipping containers. The sporadic background levels from this source are in the order of 0.05 µg/L.

The volatiles listed above are typically found on an occasional basis at other water supplies included on the DWSP.

1,1,1-Trichloroethane was detected at 0.26 µg/L in the August plant raw water and at 0.24 µg/L in the September Site 1 water. These levels are below the United States Environmental Protection Agency's Maximum Contaminant Level of 200 µg/L for 1,1,1-Trichloroethane in drinking water. 1,1,1-Trichloroethane was also detected at trace levels, four times in the plant raw water, twice in the plant treated water, twice in the Site 1 water, twice in the Victoria Street raw water, once in the Victoria Street treated water and twice in the Site 2 water.

Tetrachloroethylene was detected at trace levels, once in the plant treated water and once in the Victoria Street treated water.

THMs are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform and Total THMs were detected in all treated water samples with the exception of the October treated water from Victoria Streeet. Dichlorobromomethane was detected in all treated

waters with the exception of the December plant treated water. Bromoform was detected at trace levels, once in the plant treated water and twice in the Victoria Street treated water. All Total THM occurrences, ranging from 22.7 to 150.9 µg/L in the plant treated waters and 12.3 to 28 µg/L in the Victoria Street treated waters, were well below the ODWO of 350 µg/L.

The water sampled at Site 1 may be directly from the filtration plant or may be a mixture of water from the Sidney Street well and filtration plant water. The THM results are a good indication as to the source of the water.

CONCLUSIONS

The Trenton Water Supply System for the sample year of 1989 produced good quality water at the plant and the Victoria Street pumping station, this quality was maintained in the distribution system.

No health related guidelines, for organic or inorganic parameters, were exceeded during 1989.

RECOMMENDATIONS

One recommendation can be made:

1) During 1989 six treated water samples from the filtration plant and two treated waters from Victoria Street exceeded the aesthetic ODWO for phenols. The cause of these high phenols and a suitable treatment process should be investigated.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

	SAMPLE DAY CONDITIONS			TREATMENT CHEMICAL DOSAGES (MG/L)	
PLANT	DATE	DELAY* TIME(HRS)	FLOW (1000M3)	ALUM LIQUID	CHLORINE
FILTRATION PLANT	JAN 18	1.8	.0	30.00	2.50
	FEB 08	2.5	8.1	30.00	2.40
	MAR 08	3.0	9.0	30.00	2.50
	APR 04	2.7	6.8	35.00	2.20
	MAY 02	1.5	11.3	32.00	2.92
	JUN 06	3.0	8.5	34.00	4.30
	JUL 10	2.0	12.4	38.00	4.48
	AUG 09	3.0	8.9	50.00	5.00
	SEP 06	3.0	9.2	50.00	4.15
	OCT 03	3.0	7.9	40.00	3.80
	NOV 07	2.5	8.3	45.00	3.40
	DEC 05	3.0	6.9	41.00	2.80
VICTORIA ST PUMPING STATION	JAN 18	.0	.0	.	.90
	FEB 06	.7	3.8	.	1.00
	MAR 08	.7	4.2	.	1.00
	APR 04	.7	5.1	.	1.00
	MAY 02	.7	3.1	.	.
	JUN 06	1.0	4.5	.	1.00
	JUL 11	1.0	4.8	.	1.00
	AUG 09	1.2	3.7	.	1.45
	SEP 06	1.0	8.5	.	.65
	OCT 03	1.0	8.5	.	.63
	NOV 07	1.0	5.8	.	.62
	DEC 05	1.0	.0	.	.52

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM TRENTON WATER SUPPLY

SUMMARY TABLE OF RESULTS (1989)

		FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
		RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	12	10	0	.	.	.	.	.	.	12	0	0	.	.	.	.	.	.
	STANDRD PLATE CNT MF	.	.	.	12	8	0	11	7	0	.	.	.	12	7	0	10	4	0
	TOTAL COLIFORM MF	12	7	0	12	1	0	11	1	0	12	5	0	12	2	0	12	1	0
	T COLIFORM BCKGRD MF	12	12	0	12	3	0	11	4	0	12	12	0	12	2	0	12	2	0
*TOTAL SCAN BACTERIOLOGICAL		36	29	0	36	12	0	33	12	0	36	17	0	36	11	0	34	7	0
*TOTAL GROUP BACTERIOLOGICAL		36	29	0	36	12	0	33	12	0	36	17	0	36	11	0	34	7	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	.	.	.	12	12	0	18	12	0	.	.	.	8	8	0	17	5	0
	FLD CHLORINE FREE	.	.	.	12	12	0	20	11	0	.	.	.	12	12	0	23	21	0
	FLD CHLORINE (TOTAL)	.	.	.	12	12	0	22	18	0	.	.	.	12	12	0	24	23	0
	FLD PH	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	FLD TEMPERATURE	12	12	0	12	12	0	19	19	0	11	11	0	12	12	0	24	24	0
	FLD TURBIDITY	11	11	0	12	12	0	9	9	0	11	11	0	11	11	0	20	20	0
*TOTAL SCAN CHEMISTRY (FLD)		35	35	0	72	72	0	110	91	0	34	34	0	67	67	0	132	117	0
CHEMISTRY (LAB)	ALKALINITY	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	CALCIUM	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	CYANIDE	12	0	0	12	0	0	11	0	0	12	0	0	12	0	0	12	0	0
	CHLORIDE	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	COLOUR	12	12	0	12	12	0	22	21	1	12	12	0	12	4	8	24	19	5
	CONDUCTIVITY	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	FLUORIDE	12	11	1	12	8	4	22	18	4	12	9	3	12	11	1	24	21	3
	HARDNESS	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	IONCAL	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	LANGELIERS INDEX	12	12	0	9	9	0	21	21	0	12	12	0	12	12	0	24	24	0
	MAGNESIUM	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	SODIUM	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	AMMONIUM TOTAL	12	10	2	12	3	7	22	6	11	12	5	5	12	3	4	24	7	8
	NITRITE	12	7	5	12	3	8	22	5	15	12	1	9	12	2	7	24	4	19

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM TRENTON WATER SUPPLY

SUMMARY TABLE OF RESULTS (1989)

		FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
		SITE	RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHEMISTRY (LAB)	TOTAL NITRATES	12	9	3	12	10	2	22	22	0	12	12	0	12	12	0	24	24	0
	NITROGEN TOT KJELD	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	PH	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	PHOSPHORUS FIL REACT	12	1	5	12	0	3	.	.	.	12	0	4	12	0	7	.	.	.
	PHOSPHORUS TOTAL	12	12	0	12	0	12	.	.	.	12	0	11	12	0	11	.	.	.
	SULPHATE	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	TURBIDITY	12	12	0	12	12	0	22	21	1	12	9	2	12	10	1	24	24	0
*TOTAL SCAN CHEMISTRY (LAB)		252	218	16	249	189	36	406	356	32	252	192	34	252	186	39	444	387	35
METALS	SILVER	12	0	5	12	0	2	22	0	8	12	1	2	12	0	4	24	0	8
	ALUMINUM	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	ARSENIC	12	2	10	12	0	12	22	1	21	12	3	9	12	0	11	24	0	21
	BARIUM	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	BORON	12	7	5	12	5	7	22	19	3	12	8	4	12	9	3	24	19	5
	BERYLLIUM	12	0	7	12	0	8	22	0	19	12	2	5	12	0	9	24	1	12
	CADMIUM	12	0	2	12	1	2	22	0	16	12	1	0	12	0	1	24	2	8
	COBALT	12	0	11	12	0	9	22	0	14	12	0	9	12	0	9	24	1	15
	CHROMIUM	12	7	4	12	7	4	22	19	3	12	9	3	12	9	2	24	17	6
	COPPER	12	5	7	12	7	5	22	22	0	12	11	1	12	10	2	24	24	0
	IRON	12	10	2	12	0	9	22	11	11	12	0	1	12	0	2	24	10	14
	MERCURY	12	6	2	12	2	7	11	3	3	12	5	3	12	3	4	12	3	4
	MANGANESE	12	12	0	12	12	0	22	22	0	12	6	3	12	12	0	24	24	0
	MOLYBDENUM	12	4	8	12	5	7	22	4	18	12	4	8	12	4	8	24	5	19
	NICKEL	12	0	8	12	0	7	22	5	7	12	0	9	12	0	5	24	1	10
	LEAD	12	10	2	12	4	7	22	22	0	12	3	7	12	2	8	24	23	1
	ANTIMONY	12	11	1	12	11	1	22	20	2	12	12	0	12	11	1	24	23	1
	SELENIUM	12	0	8	12	0	8	22	0	16	12	1	7	12	0	8	24	0	16
	STRONTIUM	12	12	0	12	12	0	22	22	0	12	12	0	12	12	0	24	24	0
	TITANIUM	12	12	0	12	11	1	22	22	0	12	12	0	12	12	0	24	24	0
	THALLIUM	12	0	4	12	0	5	22	1	4	12	1	4	12	0	4	24	0	7
	URANIUM	12	9	3	12	4	8	22	20	2	12	11	1	12	12	0	24	24	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM TRENTON WATER SUPPLY

SUMMARY TABLE OF RESULTS (1989)

		FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
		SITE	RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
METALS	VANADIUM	12	4	8	12	12	0	22	16	6	12	0	11	12	0	11	24	3	18
	ZINC	12	11	1	12	12	0	22	22	0	12	7	5	12	9	3	24	24	0
*TOTAL SCAN METALS		288	146	98	288	129	109	517	295	153	288	133	92	288	129	95	564	300	165
*TOTAL GROUP INORGANIC & PHYSICAL		575	399	114	609	390	145	1033	742	185	574	359	126	607	382	134	1140	804	200
CHLOROAROMATICS	HEXACHLOROBUTADIENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	123 TRICHLOROBENZENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	1234 T-CHLOROBENZENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	1235 T-CHLOROBENZENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	124 TRICHLOROBENZENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	1245 T-CHLOROBENZENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	135 TRICHLOROBENZENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	HCB	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	HEXACHLOROETHANE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	OCTACHLOROSTYRENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	PENTACHLOROBENZENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	236 TRICHLOROTOLUENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	245 TRICHLOROTOLUENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	26A TRICHLOROTOLUENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
*TOTAL SCAN CHLOROAROMATICS		154	0	0	154	0	0	140	0	0	154	0	0	154	0	0	154	0	0
CHLOROPHENOLS	PHENOLICS	12	12	0	12	11	1	.	.	.	12	4	8	12	6	4	.	.	.
	234 TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	245-TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	246-TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	PENTACHLOROPHENOL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		18	12	0	18	11	1	0	0	0	18	4	8	12	6	4	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM TRENTON WATER SUPPLY

SUMMARY TABLE OF RESULTS (1989)

		FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
		SITE	RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PAH	PHENANTHRENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	ANTHRACENE	12	0	0	11	0	0	.	.	.	11	0	0	11	0	0	.	.	.
	FLUORANTHENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	PYRENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	BENZO(A)ANTHRACENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	CHRYSENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	DIMETH. BENZ(A)ANTHR	5	0	0	5	0	0	.	.	.	5	0	0	5	0	0	.	.	.
	BENZO(E) PYRENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	BENZO(B) FLUORANTHEN	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	PERYLENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	BENZO(K) FLUORANTHEN	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	BENZO(A) PYRENE	5	0	0	5	0	0	.	.	.	5	0	0	5	0	0	.	.	.
	BENZO(G,H,I) PERYLEN	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	DIBENZO(A,H) ANTHRAC	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	INDENO(1,2,3-C,D) PY	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	BENZO(B) CHRYSENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
	CORONENE	12	0	0	12	0	0	.	.	.	12	0	0	12	0	0	.	.	.
*TOTAL SCAN PAH		190	0	0	189	0	0	0	0	0	189	0	0	189	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	ALPHA BHC	11	0	1	11	0	5	10	0	1	11	0	0	11	0	0	11	0	0
	BETA BHC	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	LINDANE	11	0	0	11	0	1	10	0	0	11	0	0	11	0	0	11	0	0
	ALPHA CHLORDANE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	GAMMA CHLORDANE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	DIELDRIN	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	METHOXYCHLOR	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	ENDOSULFAN 1	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	ENDOSULFAN II	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	ENDRIN	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	ENDOSULFAN SULPHATE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM TRENTON WATER SUPPLY

SUMMARY TABLE OF RESULTS (1989)

		FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
		SITE	RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PESTICIDES & PCB	HEPTACHLOR EPOXIDE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	HEPTACHLOR	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	MIREX	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	OXYCHLORDANE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	OPDDT	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	PCB	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	DDD	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	PPDDE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	PPDDT	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	AMETRINE	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	ATRAZINE	11	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	ATRATONE	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	CYANAZINE (BLADEX)	11	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	D-ETHYL ATRAZINE	11	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	D-ETHYL SIMAZINE	11	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	PROMETONE	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	PROPAZINE	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	PROMETRYNE	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	METRIBUZIN (SENCOR)	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	SIMAZINE	11	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	ALACHLOR (LASSO)	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
	METOLACHLOR	12	0	0	12	0	0	6	0	0	12	0	0	12	0	0	7	0	0
*TOTAL SCAN PESTICIDES & PCB		382	0	1	387	0	6	288	0	1	387	0	0	387	0	0	322	0	0
SPECIFIC PESTICIDES	TOXAPHENE	11	0	0	11	0	0	10	0	0	11	0	0	11	0	0	11	0	0
	2,4,5-T	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	2,4-D	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	2,4-DB	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	DICAMBA	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	0	0	0	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM TRENTON WATER SUPPLY

SUMMARY TABLE OF RESULTS (1989)

		FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
		SITE	RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
SPECIFIC PESTICIDES	SILVEX	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	DIAZINON	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	DICHLOROVOS	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	ETHION	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	0	0	0	.	.	.	.	.	.
	MALATHION	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	MEVINPHOS	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	METHYL PARATHION	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	METHYLTRITHION	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	PARATHION	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	PHORATE	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	RELDAN	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	RONNEL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	AMINOCARB	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	BENOMYL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	BUX	0	0	0	0	0	0	.	.	.	0	0	0	.	.	.	.	.	.
	CARBOFURAN	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	CICP	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	DIALLATE	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	EPTAM	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	IPC	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	PROPOXUR	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	CARBARYL	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
	BUTYLATE	1	0	0	1	0	0	.	.	.	1	0	0	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		39	0	0	39	0	0	10	0	0	39	0	0	11	0	0	11	0	0
VOLATILES	BENZENE	13	0	1	13	0	0	11	0	1	12	0	0	12	0	1	11	0	0
	TOLUENE	13	0	0	13	0	3	11	0	2	12	0	5	12	0	1	11	0	2
	ETHYLBENZENE	13	0	0	13	0	2	11	0	2	12	0	5	12	0	0	11	0	2
	P-XYLENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM TRENTON WATER SUPPLY

SUMMARY TABLE OF RESULTS (1989)

		FILTRATION PLANT									VICTORIA STREET PUMPING STATION								
		SITE	RAW			TREATED			SITE 1			RAW			TREATED			SITE 1		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
VOLATILES	M-XYLENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	O-XYLENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	STYRENE	13	0	3	13	0	7	11	0	9	12	3	6	12	0	8	11	0	7
	1,1 DICHLOROETHYLENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	METHYLENE CHLORIDE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	T1,2DICHLOROETHYLENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	1,1 DICHLOROETHANE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	CHLOROFORM	13	0	3	13	13	0	11	11	0	12	0	0	12	0	0	11	0	0
	111, TRICHLOROETHANE	13	1	4	13	1	2	11	1	2	12	0	5	12	11	0	11	11	0
	1,2 DICHLOROETHANE	13	0	0	13	0	0	11	0	0	12	0	2	12	0	1	11	0	2
	CARBON TETRACHLORIDE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	1,2 DICHLOROPROPANE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	TRICHLOROETHYLENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	DICHLOROBROMOMETHANE	13	0	0	13	12	0	11	11	0	12	0	2	12	11	1	11	11	0
	112 TRICHLOROETHANE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	CHLORODIBROMOMETHANE	13	0	0	13	0	8	11	7	4	12	0	1	12	11	0	11	10	0
	T-CHLOROETHYLENE	13	0	0	13	0	1	11	0	0	12	0	0	12	0	1	11	0	0
	BROMOFORM	13	0	0	13	0	1	11	0	0	12	0	0	12	0	3	11	0	1
	1122 T-CHLOROETHANE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	CHLOROBENZENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	1,4 DICHLOROBENZENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	1,3 DICHLOROBENZENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	1,2 DICHLOROBENZENE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	ETHLYENE DIBROMIDE	13	0	0	13	0	0	11	0	0	12	0	0	12	0	0	11	0	0
	TOTL TRIHALOMETHANES	13	0	0	13	13	0	11	11	0	12	0	2	12	11	0	11	11	0
*TOTAL SCAN VOLATILES		377	1	11	377	39	24	319	41	20	348	3	28	348	44	16	319	43	14
*TOTAL GROUP ORGANIC		1160	13	12	1164	50	31	757	41	21	1135	7	36	1101	50	20	806	43	14
TOTAL		1771	441	126	1809	452	176	1823	795	206	1745	383	162	1744	443	154	1980	854	214

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, the AO is a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. However, studies of long-term environmental trends and modelling may be adversely affected by exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported qualified by the code "<T". Results quantified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. However the average of such data is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!IV	No Data: Inverted Septum
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded

!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
USD	Unreliable: Sample Decomposition Noted
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

	FILTRATION PLANT				VICTORIA ST			
	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
BACTERIOLOGICAL								
FECAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**		**GUIDELINE = 0 (A1)**			
JAN	5 T48	.	.	.	0 T48	.	.	.
FEB	4 T48	.	.	.	0 T48	.	.	.
MAR	9 A3C	.	.	.	0 T48	.	.	.
APR	BDL	.	.	.	0 T48	.	.	.
MAY	2	.	.	.	0	.	.	.
JUN	5	.	.	.	0	.	.	.
JUL	7 A3C	.	.	.	0	.	.	.
AUG	BDL	.	.	.	0	.	.	.
SEP	2 A3C	.	.	.	0	.	.	.
OCT	4	.	.	.	0	.	.	.
NOV	4	.	.	.	0	.	.	.
DEC	36	.	.	.	0	.	.	.
STANDRD PLATE CNT MF ( )			**DET'N LIMIT = 0**		**GUIDELINE = 500/ML (A1)**			
JAN	.	6 <=>	.	2 <=>	.	4 <=>	.	1 <=>
FEB	.	19 T48	.	9 <=>	.	6 <=>	.	3 <=>
MAR	.	2 <=>	.	3 <=>	.	7 <=>	.	5 <=>
APR	.	3 <=>	.	7 <=>	.	120 T48	.	6 <=>
MAY	.	56	.	15	.	5 <=>	.	TOP
JUN	.	2400 >	.	950	.	2400 >	.	80
JUL	.	24000 >	.	.	.	24000 >	.	380
AUG	.	4000	.	250	.	970	.	3300
SEP	.	11000	.	24000 >	.	45	.	4300
OCT	.	1700	.	1800	.	76	.	BDL
NOV	.	5000	.	2800	.	24	.	TLA

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT								
FILTRATION PLANT					VICTORIA ST			
SITE								
	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
DEC	.	1 <=>	.	166	.	0 <=>	.	4 <=>
TOTAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)			
JAN	1040 A3C	0 T48	.	0 T48	6 T48	0 T48	.	0 T48
FEB	3280 A3C	2 T48	.	4 T48	12 A3C	0 T48	.	0 T48
MAR	860 A3C	0 T24	.	0 T06	2 A3C	0 T24	.	0 T06
APR	120 <=>	0 T48	.	0 T24	5 A3C	0 T48	.	0 T24
MAY	460 A3C	0	.	0	0	0	.	0
JUN	500 <=>	0	.	0	0	0	.	0
JUL	300 <=>	0 A3C	.	.	2 A3C	0	.	0
AUG	BDL	0	.	0	BDL	0	.	0
SEP	200 <=>	0	.	0	BDL	114	.	0
OCT	1600 A3C	0	.	0	BDL	34	.	17
NOV	440 A3C	0	.	0	0 A3C	0	.	0
DEC	800 A3C	0	.	0	BDL	0	.	0
T COLIFORM BCKGRD MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = N/A			
JAN	48000 >	0 T48	.	0 T48	94 T48	0 T48	.	0 T48
FEB	48000 T48	15 T48	.	2 T48	1600 T48	0 T48	.	0 T48
MAR	48000 >	0 T24	.	0 T06	2400 >	0 T24	.	0 T06
APR	30000 A3C	0 T48	.	0 T24	2400 >	0 T48	.	0 T24
MAY	48000 >	0	.	8	2400 >	0	.	1
JUN	24000 A3C	0	.	0	2400 >	0	.	0
JUL	41000 A3C	2400 >	.	.	1500 A3C	0	.	0
AUG	40000 >	0	.	0	24000 >	0	.	0
SEP	00000 A3C	0	.	1	24000 >	1	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
OCT	32000 A3C	160	-	8	24000 >	3	-	2
NOV	48000 >	0	-	0	390	0	-	0
DEC	48000 >	0	-	0	680	0	-	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
CHEMISTRY (FLD)								
FLD CHLORINE (COMB) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.300	.200	.200	.	.200	.100	.100
FEB	.	.400	.100	.100	.	.	.	.
MAR	.	.200	.	.	.	.	.	.200
APR	.	.800	.	.	.	.	.	.
MAY	.	.200	.100	.100	.	.	.	.
JUN	.	.200	.000	.000	.	.200	.000	.000
JUL	.	.150	.	.	.	.080	.000	.000
AUG	.	.200	.000	.100	.	.200	.000	.000
SEP	.	.200	.000	.100	.	.200	.000	.000
OCT	.	.200	.100	.300	.	.200	.100	.000
NOV	.	.400	.000	.100	.	.100	.000	.000
DEC	.	.200	.000	.100	.	.100	.000	.100
FLD CHLORINE FREE ( )			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.500	.100	.100	.	.500	.	.300
FEB	.	.100	.	.100	.	.500	.100	.100
MAR	.	.500	.100	.300	.	.500	.100	.300
APR	.	.100	.100	.200	.	.300	.100	.300
MAY	.	.500	.	.100	.	.500	.100	.300
JUN	.	.300	.000	.100	.	.100	.100	.100
JUL	.	.500	.	.	.	.200	.100	.200
AUG	.	.500	.100	.100	.	.300	.100	.100
SEP	.	.500	.000	.000	.	.300	.100	.100
OCT	.	.500	.000	.000	.	.300	.000	.100
NOV	.	.300	.000	.000	.	.200	.100	.100

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
DEC	.	.500	.000	.000	.	.200	.000	.100
FLD CHLORINE (TOTAL) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.800	.300	.300	.	.700	.100	.400
FEB	.	.500	.100	.200	.	.500	.100	.300
MAR	.	.700	.100	.300	.	.500	.100	.500
APR	.	.900	.100	.200	.	.300	.100	.300
MAY	.	.700	.100	.200	.	.500	.100	.300
JUN	.	.500	.000	.100	.	.300	.100	.100
JUL	.	.650	.	.	.	.280	.100	.200
AUG	.	.700	.100	.200	.	.500	.100	.100
SEP	.	.700	.000	.100	.	.500	.100	.100
OCT	.	.700	.100	.300	.	.500	.100	.100
NOV	.	.700	.000	.100	.	.300	.100	.100
DEC	.	.700	.000	.100	.	.300	.000	.200
FLD PH (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)			
JAN	7.600	7.200	7.200	7.200	7.600	7.600	7.800	7.600
FEB	7.600	7.100	7.500	7.200	7.500	7.500	7.500	7.400
MAR	7.800	7.200	7.400	7.400	7.400	7.400	7.400	7.400
APR	7.800	7.000	7.400	7.500	7.600	7.600	7.400	7.400
MAY	7.800	7.000	7.400	7.100	7.400	7.600	7.600	7.400
JUN	8.000	7.000	7.500	7.500	7.400	7.400	7.400	7.400
JUL	7.800	7.000	.	.	7.400	7.600	7.600	7.600
AUG	8.000	7.000	6.800	6.800	7.600	7.600	7.600	7.600
SEP	8.400	7.200	7.000	7.200	7.600	7.600	7.400	7.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
OCT	8.200	7.000	7.200	7.200	8.400	7.600	7.600	7.600
NOV	8.000	7.000	7.600	7.400	7.600	7.600	7.400	7.400
DEC	7.800	7.000	7.200	7.200	7.600	7.800	7.400	7.400
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)			
JAN	1.500	1.500	8.000	4.000	4.000	7.000	17.000	7.000
FEB	2.000	2.000	14.000	2.000	4.000	6.000	16.000	6.500
MAR	1.000	1.000	12.000	7.000	4.000	6.000	15.000	5.000
APR	5.000	5.000	17.000	6.000	5.000	7.000	17.000	7.000
MAY	11.000	11.000	17.000	10.000	7.000	8.000	17.000	10.000
JUN	21.000	21.000	20.000	15.000	12.000	12.000	18.000	13.000
JUL	26.000	26.000	.	.	18.500	16.500	21.000	16.000
AUG	24.000	24.000	21.000	23.000	.	18.000	19.000	19.000
SEP	21.000	21.000	25.000	22.000	20.000	14.000	20.000	18.000
OCT	15.500	15.500	19.000	17.000	16.000	17.000	18.000	17.000
NOV	9.000	9.000	.	.	8.000	12.000	16.000	12.000
DEC	1.000	1.000	25.000	.	8.000	9.000	16.000	9.000
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)			
JAN	1.000	.540	.	.	.	.	.	.
FEB	1.400	.300	.840	.400	.060	.030	1.100	.030
MAR	.	.320	.470	.140	.200	.040	1.000	.090
APR	2.300	.500	1.400	.110	.080	.110	.970	.180
MAY	1.900	.260	1.900	.580	.100	.100	.430	.340
JUN	3.300	.230	.	.380	.150	.080	.520	.130
JUL	2.200	.310	.	.	.070	.070	.120	.090

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
AUG	4.500	.300	.	.	.100	.100	.	.
SEP	4.800	.230	.	.	.120	.070	.100	.100
OCT	4.800	.400	.	.	1.400	.130	1.400	.260
NOV	2.800	.300	.	.	.600	.070	.480	.600
DEC	1.800	.360	.	.	.100	.160	1.550	.100

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
CHEMISTRY (LAB)								
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)			
JAN	98.600	88.400	107.900	108.600	218.400	221.300	215.400	220.800
FEB	102.000	83.400	115.500	209.200	211.000	220.100	216.000	218.900
MAR	104.100	88.600	185.900	192.200	217.300	222.100	220.000	222.600
APR	94.100	73.300	81.200	193.200	178.800	194.700	194.800	191.100
MAY	88.900	72.600	86.200	78.100	183.600	190.400	191.900	88.400
JUN	90.500	70.800	208.500	211.000	202.700	209.900	213.000	199.300
JUL	96.600	75.000	.	.	204.000	212.000	212.400	197.000
AUG	97.200	66.600	71.500	67.200	170.600	187.200	190.000	171.100
SEP	103.300	79.500	115.400	206.700	168.900	184.800	184.300	172.100
OCT	108.500	86.000	176.800	181.200	176.700	188.200	188.200	181.400
NOV	115.500	93.200	153.400	191.900	194.600	207.200	206.900	204.800
DEC	112.600	89.200	136.900	154.800	208.100	223.100	227.700	227.100
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)			
JAN	38.600	38.800	51.000	50.600	87.800	88.000	82.200	86.400
FEB	39.200	39.400	50.400	83.200	81.200	85.800	80.200	82.200
MAR	42.600	42.200	76.600	80.000	90.400	91.600	90.000	91.400
APR	39.000	39.400	42.000	78.400	70.800	79.000	78.600	77.200
MAY	39.800	38.400	44.200	38.600	76.600	85.800	77.000	42.600
JUN	37.800	37.400	83.200	82.600	77.600	81.600	85.600	78.400
JUL	37.800	37.800	.	.	75.000	82.800	81.400	76.200
AUG	37.000	37.200	38.600	37.400	64.600	72.400	72.000	67.000
SEP	41.200	40.800	58.800	101.000	63.600	74.400	75.000	67.400
OCT	42.200	42.600	73.200	71.800	67.400	75.400	73.400	70.800
NOV	43.200	42.000	63.200	74.400	75.600	80.400	79.800	77.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
OCT	15.500	4.000	9.000	3.000	4.500	3.500	5.000	2.500
NOV	15.000	4.000	6.500	2.500	3.500	2.000 <T	3.000	3.000
DEC	17.500	4.000	8.500	7.500	4.500	2.000 <T	4.500	2.500
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)			
JAN	262	268	336	337	616	624	607	626
FEB	266	274	352	603	605	622	615	619
MAR	276	283	544	560	629	634	626	637
APR	255	264	280	557	506	557	552	549
MAY	234	243	280	254	544	589	571	277
JUN	229	239	588	594	560	593	596	562
JUL	232	246	.	.	554	585	580	544
AUG	232	248	256	247	504	550	549	509
SEP	249	263	359	614	526	565	557	522
OCT	270	281	539	559	543	570	570	550
NOV	276	286	444	571	587	612	604	609
DEC	281	287	401	476	621	644	655	649
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)			
JAN	.060	.060	.060	.060	.040 <T	.060	.060	.060
FEB	.060	.060	.060	.060	.060	.060	.040 <T	.060
MAR	.100	.060	.080	.060	.060	.060	.080	.060
APR	.040 <T	.040 <T	.040 <T	.060	.060	.060	.060	.060
MAY	.060	.060	.080	.060	.080	.080	.100	.060
JUN	.060	.060	.060	.060	.060	.060	.040 <T	.060
JUL	.060	.060	.	.	.060	.060	.060	.060

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
DEC	49.000	47.600	68.000	79.600	88.600	93.000	93.000	93.000
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)			
JAN	12.100	13.600	17.300	17.500	51.200	50.400	46.000	49.600
FEB	11.400	13.100	19.100	47.000	49.600	49.000	48.600	48.800
MAR	12.100	13.800	40.200	42.100	50.800	49.900	49.500	51.400
APR	10.400	12.100	12.600	43.200	38.900	42.300	42.700	43.100
MAY	7.600	9.900	11.800	10.300	47.100	49.600	45.800	12.300
JUN	8.000	11.200	47.300	48.100	45.900	48.100	48.100	44.200
JUL	7.900	11.900	.	.	48.000	49.400	48.100	44.700
AUG	8.000	12.100	12.700	12.300	52.200	52.900	51.600	48.700
SEP	9.900	13.400	17.900	34.300	56.000	56.300	55.100	50.300
OCT	11.200	14.500	47.200	53.300	53.500	53.500	53.800	49.900
NOV	9.900	12.400	28.200	49.800	56.500	56.400	56.600	56.000
DEC	10.900	12.600	17.800	21.500	56.300	54.800	54.900	55.300
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)			
JAN	11.500	5.000	5.500	5.000	3.500	1.500 <T	2.000 <T	1.500 <T
FEB	15.000	4.500	5.000	2.500	3.500	1.500 <T	2.500	1.500 <T
MAR	14.000	4.000	2.500	2.500	2.500	1.500 <T	2.500	1.000 <T
APR	19.500	3.500	7.000	1.500 <T	4.500	2.000 <T	4.000	2.000 <T
MAY	14.500	4.000	7.000	6.000	5.000	1.500 <T	2.500	4.500
JUN	15.000	3.500	3.000	2.500	4.500	2.000 <T	3.000	3.000
JUL	22.000	5.500	.	.	7.500	3.500	6.000	5.000
AUG	19.500	3.500	6.000	4.500	6.500	3.000	5.000	4.500
SEP	15.000	3.000	5.000	5.000	6.000	3.000	4.50	3.500

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
AUG	.060	.040 <T	.020 <T	.020 <T	.060	.060	.060	.060
SEP	.080	.060	.060	.060	.080	.080	.080	.080
OCT	.080	.060	.060	.060	.080	.060	.060	.060
NOV	.080	.040 <T	.060	.040 <T	.040 <T	.060	.060	.060
DEC	.080	.040 <T	.060	.040 <T	.040 <T	.040 <T	.060	.040 <T
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)			
JAN	114.000	115.000	149.000	148.000	271.000	276.000	258.000	270.000
FEB	116.000	116.000	149.000	257.000	250.000	266.000	251.000	257.000
MAR	123.000	122.000	233.000	242.000	272.000	279.000	274.000	277.000
APR	114.000	115.000	122.000	240.000	215.000	242.000	241.000	235.000
MAY	116.000	113.000	128.000	114.000	230.000	264.000	248.000	126.000
JUN	111.000	111.000	254.000	253.000	234.000	251.000	260.000	239.000
JUL	110.000	110.000	.	.	223.000	250.000	246.000	231.000
AUG	109.000	110.000	117.000	109.000	195.000	223.000	222.000	204.000
SEP	121.000	120.000	168.000	287.000	196.000	230.000	230.000	208.000
OCT	125.000	126.000	222.000	222.000	209.000	234.000	230.000	221.000
NOV	128.000	125.000	190.000	232.000	235.000	252.000	251.000	247.000
DEC	140.000	136.000	193.000	226.000	270.000	284.000	286.000	286.000
IONCAL (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	2.429	3.619	.995	2.333	1.547	1.390	4.223	2.116
FEB	5.093	4.897	6.369	3.633	3.584	3.462	5.632	5.758
MAR	1.160	1.308	1.654	1.527	.258	.578	1.259	1.156
APR	2.943	3.294	2.465	1.187	1.819	1.415	.854	.732
MAY	11.190	7.863	2.450	3.030	3.329	7.845	1.692	4.824

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
JUN	6.991	5.839	.200	.345	.494	1.152	1.110	.876
JUL	2.118	.364	.	.	2.756	.358	1.947	1.921
AUG	.694	.734	1.712	1.242	3.228	2.743	5.358	3.830
SEP	3.310	1.239	.784	.862	2.875	.271	.406	3.327
OCT	.537	1.090	2.267	1.397	1.725	.410	.666	1.889
NOV	1.324	4.687	4.103	3.105	.946	1.773	2.053	2.966
DEC	5.276	4.341	1.967	1.145	2.180	.805	.767	.163
LANGELIERS INDEX (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.346	-.131	.096	.305	1.121	1.117	.717	.838
FEB	.376	.028	.349	.960	1.013	1.074	.967	1.003
MAR	.457	.200	.938	.960	.980	1.145	1.194	1.185
APR	.313	.196	.182	1.084	1.101	1.141	1.299	1.153
MAY	.385	.298	.310	.138	1.133	1.114	1.302	.426
JUN	.313	.008	1.110	1.071	1.110	1.094	1.181	1.067
JUL	.090	-.365	.	.	.789	.905	1.069	1.091
AUG	.233	-.045	.039	-.048	1.071	1.076	1.130	1.088
SEP	.460	.066	.484	1.008	.928	1.041	1.094	1.061
OCT	.433	.252	.967	.938	1.121	1.184	1.153	1.083
NOV	.528	.179	.601	.897	.898	1.140	1.377	.960
DEC	.710	.494	.778	.732	1.193	1.214	1.162	1.261
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)			
JAN	4.300	4.300	5.200	5.300	12.500	13.600	12.800	13.100
FEB	4.400	4.400	5.700	11.900	11.600	12.600	12.300	12.600
MAR	4.000	4.100	10.100	10.200	11.300	12.200	12.000	11.900

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
APR	3.900	4.000	4.200	10.800	9.200	10.800	11.000	10.400
MAY	4.100	4.200	4.400	4.100	9.500	12.100	13.500	4.800
JUN	4.200	4.200	11.300	11.400	9.700	11.400	11.200	10.700
JUL	3.800	3.800	.	.	8.700	10.600	10.400	9.800
AUG	4.100	4.200	5.000	3.900	8.100	10.300	10.300	8.900
SEP	4.400	4.400	5.200	8.200	9.100	10.700	10.300	9.800
OCT	4.800	4.800	9.400	10.400	9.900	11.100	11.400	10.600
NOV	5.000	4.900	7.800	11.200	11.300	12.400	12.500	12.800
DEC	4.300	4.300	5.600	6.500	11.800	12.600	13.100	12.900
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)			
JAN	7.200	6.800	8.800	8.800	24.400	24.200	22.600	24.800
FEB	6.000	6.200	9.000	22.800	25.400	23.600	23.600	23.600
MAR	6.800	7.000	19.600	19.800	24.400	23.400	23.400	24.400
APR	7.000	6.800	7.200	22.600	22.600	22.400	22.200	22.400
MAY	4.400	4.400	5.000	4.600	25.600	24.800	22.000	5.800
JUN	5.000	5.200	24.200	25.200	26.400	24.800	24.800	22.600
JUL	5.000	5.000	.	.	27.600	25.800	25.800	23.600
AUG	4.600	4.600	5.000	4.400	27.600	26.200	25.000	24.000
SEP	5.600	5.600	8.400	19.000	30.200	28.400	27.400	25.000
OCT	6.000	6.000	22.800	26.600	28.400	27.200	27.400	25.400
NOV	6.000	6.000	14.800	25.400	30.000	29.000	28.600	28.200
DEC	5.800	5.600	8.600	10.800	27.600	26.200	25.800	26.800
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)			
JAN	.050	.006 <T	.006 <T	.002 <T	.010	.006 <T	.002 <T	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
FEB	.058	.010	.008 <T	.008 <T	.012	.008 <T	.004 <T	.010
MAR	.004 <T	.002 <T	.010	BDL	.010	BDL	.006 <T	BDL
APR	.052	.064	.076	.002 <T	.008 <T	.004 <T	BDL	.004 <T
MAY	.036	.002	.004	.002	.004	.004	.032	.002
JUN	.024	BDL	BDL	.002 <T	BDL	BDL	BDL	.002 <T
JUL	.028	.004 <T	.	.	.002 <T	BDL	.012	.002 <T
AUG	.086	.002 <T	.024	.010	BDL	BDL	BDL	BDL
SEP	.074	.002 <T	.006 <T	.002 <T	.004 <T	BDL	.018	BDL
OCT	.008 <T	.002 <T	BDL	.004 <T	.004 <T	.010	BDL	.002 <T
NOV	.042	.002 <T	.006 <T	.002 <T	.020	.004 <T	.010	.002 <T
DEC	.028	BDL	BDL	BDL	.008 <T	.014	.024	BDL
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)			
JAN	.009	.004 <T	.004 <T	.004 <T	.003 <T	.003 <T	.004 <T	.004 <T
FEB	.011	.007	.005	.004 <T	.004 <T	.003 <T	.004 <T	.004 <T
MAR	.004 <T	.001 <T	.002 <T	.001 <T	.003 <T	BDL	.001 <T	.001 <T
APR	.106	.006	.008	.002 <T	.001 <T	.001 <T	.003 <T	.002 <T
MAY	.004 <T	.001 <T	.005	.001 <T	BDL	BDL	.004 <T	.002 <T
JUN	.008	.005	.005	.005	.009	.005	.006	.005
JUL	.003 <T	.001 <T	.	.	.001 <T	.001 <T	.004 <T	.001 <T
AUG	.003 <T	BDL	BDL	BDL	BDL	BDL	.001 <T	BDL
SEP	.005	.003 <T	.004 <T	.003 <T	.004 <T	.005	.009	.004 <T
OCT	.004 <T	.001 <T	.002 <T	.001 <T	.002 <T	.001 <T	.002 <T	.002 <T
NOV	.023	.001 <T	.002 <T	.001 <T	.002 <T	.001 <T	.007	.002 <T
DEC	.006	.001 <T	.002 <T	.003 <T	.001 <T	.002 <T	.002 <T	.001 <T
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)			

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
JAN	.170	.165	.475	.485	1.500	1.780	1.750	1.690
FEB	.280	.285	.610	1.970	1.860	2.000	1.950	2.000
MAR	.235	.230	1.770	1.860	2.390	2.290	2.240	2.380
APR	.525	.370	.375	1.930	1.830	1.980	1.960	1.900
MAY	.135	.135	.965	.165	1.700	1.710	1.550	.230
JUN	.050	.055	1.010	.975	.255	.995	.925	.890
JUL	.015 <T	.015 <T	.	.	.060	.455	.830	.720
AUG	.065	.065	.075	.065	.060	.700	.840	.515
SEP	.010 <T	.010 <T	.440	1.910	.130	.720	.700	.605
OCT	.010 <T	.025	.690	.720	.445	.865	.795	.825
NOV	.160	.130	.730	.995	.665	1.040	1.000	.990
DEC	.240	.225	1.040	2.280	1.170	1.420	1.500	1.460
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A			
JAN	.430	.330	.310	.300	.240	.190	.210	.200
FEB	.490	.290	.310	.170	.200	.150	.210	.140
MAR	.430	.290	.280	.210	.240	.340	.220	.170
APR	.630	.370	.430	.180	.250	.190	.240	.200
MAY	.410	.230	.290	.260	.190	.140	.300	.260
JUN	.560	.270	.220	.170	.170	.160	.170	.190
JUL	.580	.340	.	.	.200	.190	.180	.190
AUG	.770	.320	.470	.320	.190	.200	.190	.210
SEP	.620	.290	.310	.370	.220	.200	.340	.210
OCT	.740	.390	.240	.180	.240	.150	.250	.170
NOV	.630	.340	.270	.190	.220	.170	.220	.140
DEC	.550	.330	.370	.390	.350	.270	.260	.180

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
PH (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)			
JAN	8.190	7.760	7.800	8.010	8.310	8.300	7.940	8.030
FEB	8.200	7.940	8.030	8.190	8.250	8.270	8.200	8.220
MAR	8.240	8.060	8.250	8.240	8.160	8.310	8.370	8.350
APR	8.170	8.160	8.080	8.370	8.460	8.420	8.580	8.450
MAY	8.250	8.270	8.160	8.080	8.450	8.370	8.600	8.280
JUN	8.190	8.000	8.340	8.300	8.380	8.330	8.390	8.340
JUL	7.940	7.600	.	.	8.070	8.130	8.300	8.380
AUG	8.090	7.980	8.020	7.970	8.490	8.410	8.460	8.490
SEP	8.250	7.980	8.100	8.160	8.360	8.370	8.420	8.460
OCT	8.200	8.120	8.320	8.290	8.510	8.500	8.480	8.440
NOV	8.260	8.020	8.070	8.210	8.200	8.390	8.630	8.230
DEC	8.400	8.300	8.260	8.100	8.400	8.370	8.310	8.410
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A			
JAN	.001 <T	.001 <T	.	.	.000 <T	.000 <T	.	.
FEB	.000	.000	.	.	.000	BDL	.	.
MAR	BDL	BDL	.	.	BDL	.000 <T	.	.
APR	.005	.001 <T	.	.	.000 <T	.000 <T	.	.
MAY	.000 <T	BDL	.	.	.001 <T	.000 <T	.	.
JUN	.000 <T	BDL	.	.	BDL	.000 <T	.	.
JUL	BDL	BDL	.	.	BDL	BDL	.	.
AUG	BDL	BDL	.	.	BDL	.001 <T	.	.
SEP	.000 <T	BDL	.	.	BDL	BDL	.	.
OCT	BDL	%DL	.	.	BDL	BDL	.	.
NOV	.001 <T	.001 <T	.	.	.001 <T	.001 <T	.	.
DEC	BDL	BDL	.	.	BDL	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)			
JAN	.011	.006 <T	.	.	.003 <T	.002 <T	.	.
FEB	.016	.005 <T	.	.	.003 <T	.002 <T	.	.
MAR	.012	.003 <T	.	.	.003 <T	.003 <T	.	.
APR	.031	.005 <T	.	.	.003 <T	.002 <T	.	.
MAY	.017	.003 <T	.	.	.002 <T	.002 <T	.	.
JUN	.027	.005 <T	.	.	.004 <T	.004 <T	.	.
JUL	.030	.008 <T	.	.	.004 <T	.003 <T	.	.
AUG	.032	.005 <T	.	.	.003 <T	.003 <T	.	.
SEP	.033	.004 <T	.	.	.003 <T	.003 <T	.	.
OCT	.030	.006 <T	.	.	.002 <T	.002 <T	.	.
NOV	.024	.004 <T	.	.	BDL	BDL	.	.
DEC	.017	.007 <T	.	.	.003 <T	.003 <T	.	.
SULPHATE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 500. (A3)			
JAN	16.070	24.850	34.140	34.710	31.440	32.750	32.180	32.280
FEB	16.020	32.110	33.610	33.500	27.920	30.750	26.580	30.060
MAR	16.470	29.130	29.830	29.630	27.500	29.760	29.970	29.190
APR	13.880	32.610	33.030	23.870	18.050	23.860	24.170	22.510
MAY	12.580	25.600	28.490	25.320	19.800	27.170	27.520	24.680
JUN	12.090	27.280	26.280	25.590	20.390	25.680	25.050	25.530
JUL	10.240	27.480	.	.	18.220	23.280	23.830	23.660
AUG	9.590	35.640	34.600	34.270	17.590	22.490	24.450	23.210
SEP	11.310	33.920	41.080	65.420	20.210	24.480	24.840	25.370
OCT	12.550	29.840	30.030	23.850	20.750	24.070	23.690	24.990
NOV	12.880	32.040	34.000	29.080	25.660	28.710	27.730	28.360
DEC	15.520	33.290	40.000	50.750	29.790	31.520	33.020	32.400

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)			
JAN	1.000	.890	.740	.640	8.800	.800	.920	.550
FEB	1.410	.690	.930	.480	.240 <T	1.230 RRV	1.610 RRV	.580
MAR	1.100	.830	.820	.890	8.000	1.090 RRV	1.710 RRV	.720
APR	3.600	1.800 RRV	2.300 RRV	.310	.600	.500	1.240 RRV	.640
MAY	2.100	1.030 RRV	2.600 RRV	.800	2.200	.970	.880	.650
JUN	4.700	.500	.640	.800	.270	.470	.510	.520
JUL	2.700	.640	.	.	.220	.460	.240	.330
AUG	2.800	.720	.670	.630	.250 <T	.640	.800	.430
SEP	3.600	.630	.140	.180	BDL	BDL	.480	.350
OCT	4.000	.600	3.000	.400	.340	.280	2.100	.470
NOV	2.300	.360	2.100	.230 <T	.270	.190 <T	.850	.310
DEC	2.400	.400	.990	.840	1.030	.430	1.350 RRV	.450

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

	FILTRATION PLANT		VICTORIA ST					
	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
METALS								
SILVER (UG/L)			DET'N LIMIT = .020		GUIDELINE = 50. (A1)			
JAN	BDL	BDL	.050 <T	BDL	BDL	.030 <T	.030 <T	BDL
FEB	.030 <T	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MAR	BDL	BDL	.030 <T	BDL	BDL	BDL	.050 <T	BDL
APR	.080 <T	.110 <T	.190 <T	.040 <T	.580	.100 <T	.130 <T	.120 <T
MAY	.060 <T	.060 <T	.060 <T	.030 <T	.030 <T	BDL	.060 <T	BDL
JUN	BDL	BDL	.050 <T	BDL	BDL	.050 <T	.040 <T	BDL
JUL	.040 <T	BDL	.	.	BDL	.060 <T	.050 <T	BDL
AUG	.030 <T	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	.040 <T	.060 <T	BDL	.060 <T	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
ALUMINUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 100.(A4)			
JAN	18.560	382.800	197.200	185.600	2.204	2.436	22.040	11.600
FEB	35.960	208.800	91.640	54.520	2.204	3.132	4.988	4.292
MAR	12.760	208.800	75.400	77.720	4.408	5.336	10.440	6.148
APR	52.200	88.160	102.080	18.560	7.888	9.164	11.600	9.860
MAY	31.320	162.400	208.800	232.000	9.860	11.600	41.760	208.800
JUN	58.000	160.000	30.000	24.000	8.500	6.100	9.700	23.000
JUL	41.000	220.000	.	.	8.300	8.900	17.000	39.000
AUG	45.000	170.000	140.000	160.000	9.300	9.900	15.000	30.000
SEP	29.000	170.000	120.000	70.000	7.200	5.600	13.000	24.000
OCT	37.000	270.000	61.000	36.000	3.900	4.200	9.200	28.000
NOV	21.000	160.000	150.000	43.000	2.600	2.700	6.000	11.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
DEC	34.000	190.000	150.000	120.000	4.000	4.700	7.800	5.000
ARSENIC (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 50.0 (A1)			
JAN	.280 <T	.250 <T	.210 <T	.110 <T	.070 <T	BDL	BDL	BDL
FEB	.400 <T	.310 <T	.320 <T	.480 <T	.330 <T	.320 <T	.280 <T	.240 <T
MAR	.810 <T	.510 <T	.610 <T	.540 <T	.590 <T	.800 <T	.690 <T	.760 <T
APR	.340 <T	.190 <T	.410 <T	.080 <T	1.400	.080 <T	.230 <T	BDL
MAY	.880 <T	.630 <T	.600 <T	.810 <T	1.100	.710 <T	.560 <T	.200 <T
JUN	.760 <T	.310 <T	.700 <T	.580 <T	.760 <T	.470 <T	.250 <T	.440 <T
JUL	.490 <T	.290 <T	.	.	.900 <T	.620 <T	.400 <T	.580 <T
AUG	1.100	.690 <T	.710 <T	.550 <T	.860 <T	.730 <T	.590 <T	.640 <T
SEP	1.300	.910 <T	.970 <T	1.200	1.100	.820 <T	.900 <T	.860 <T
OCT	.730 <T	.420 <T	.370 <T	.220 <T	.260 <T	.430 <T	.370 <T	.400 <T
NOV	.390 <T	.270 <T	.280 <T	.380 <T	.430 <T	.320 <T	.390 <T	.550 <T
DEC	.370 <T	.300 <T	.230 <T	.380 <T	.580 <T	.700 <T	.350 <T	.310 <T
BARIUM (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = 1000. (A1)			
JAN	35.000	36.000	42.000	40.000	59.000	67.000	69.000	63.000
FEB	36.000	32.000	45.000	83.000	56.000	65.000	62.000	62.000
MAR	37.000	35.000	57.000	58.000	63.000	67.000	69.000	65.000
APR	36.000	34.000	42.000	62.000	54.000	62.000	66.000	59.000
MAY	34.000	33.000	38.000	32.000	53.000	70.000	65.000	37.000
JUN	35.000	34.000	61.000	64.000	59.000	66.000	66.000	64.000
JUL	39.000	38.000	.	.	63.000	67.000	72.000	66.000
AUG	42.000	40.000	40.000	40.000	55.000	67.000	65.000	61.000
SEP	45.000	44.000	51.000	77.000	60.000	69.000	70.000	65.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
OCT	40.000	40.000	59.000	59.000	56.000	63.000	62.000	64.000
NOV	39.000	34.000	44.000	61.000	57.000	66.000	61.000	66.000
DEC	38.000	33.000	56.000	59.000	62.000	71.000	70.000	71.000
BORON (UG/L)			DET'N LIMIT = 0.200		GUIDELINE = 5000. (A1)			
JAN	14.000 <T	29.000	21.000	15.000 <T	26.000	13.000 <T	27.000	16.000 <T
FEB	22.000	12.000 <T	40.000	130.000	14.000 <T	13.000 <T	46.000	32.000
MAR	27.000	26.000	77.000	52.000	100.000	65.000	29.000	38.000
APR	22.000	16.000 <T	120.000	150.000	47.000	310.000	54.000	350.000
MAY	18.000 <T	110.000	98.000	32.000	300.000	260.000	38.000	50.000
JUN	20.000 <T	20.000 <T	40.000	39.000	17.000 <T	35.000	25.000	31.000
JUL	32.000	32.000	.	.	54.000	22.000	58.000	46.000
AUG	38.000	15.000 <T	32.000	30.000	51.000	54.000	26.000	52.000
SEP	38.000	38.000	46.000	79.000	51.000	56.000	67.000	57.000
OCT	25.000	20.000 <T	32.000	29.000	24.000	26.000	29.000	28.000
NOV	14.000 <T	19.000 <T	15.000 <T	13.000 <T	12.000 <T	12.000 <T	12.000 <T	17.000 <T
DEC	11.000 <T	9.100 <T	31.000	30.000	13.000 <T	30.000	11.000 <T	8.600 <T
BERYLLIUM (UG/L)			DET'N LIMIT = 0.010		GUIDELINE = N/A			
JAN	BDL	.060 <T	BDL	BDL	BDL	BDL	BDL	BDL
FEB	.020 <T	BDL	.050 <T	.100 <T	BDL	BDL	BDL	BDL
MAR	.100 <T	.090 <T	.220 <T	.110 <T	.100 <T	.280 <T	.140 <T	.050 <T
APR	.050 <T	BDL	.260 <T	.180 <T	1.500	.370 <T	BDL	.590
MAY	BDL	.070 <T	.150 <T	.050 <T	.560	.290 <T	BDL	.120 <T
JUN	.060 <T	.040 <T	.060 <T	.140 <T	BDL	.080 <T	.020 <T	.110 <T
JUL	.040 <T	.040 <T	.	.	.160 <T	.040 <T	.130 <T	.130 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE			SITE 1				SITE 1	
TYPE	RAW	TREATED	STANDING	FREE FLOW	RAW	TREATED	STANDING	FREE FLOW
AUG	.170 <T	.060 <T	.050 <T	.060 <T	.060 <T	.120 <T	BDL	.070 <T
SEP	BDL	BDL	.050 <T	.120 <T	BDL	.020 <T	.040 <T	.020 <T
OCT	BDL	.040 <T	.060 <T	.060 <T	.040 <T	.070 <T	.050 <T	.040 <T
NOV	.030 <T	.050 <T	BDL	.020 <T	.050 <T	BDL	BDL	BDL
DEC	BDL	BDL	.110 <T	.070 <T	BDL	.070 <T	BDL	BDL
CADMIUM (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 5.000 (A1)			
JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
FEB	BDL	BDL	.110 <T	BDL	BDL	BDL	BDL	BDL
MAR	BDL	BDL	.400 <T	.180 <T	BDL	BDL	.100 <T	BDL
APR	.090 <T	.080 <T	.490 <T	.140 <T	1.100	.070 <T	.110 <T	.090 <T
MAY	BDL	BDL	.390 <T	.080 <T	BDL	BDL	.470 <T	.070 <T
JUN	BDL	BDL	.100 <T	.070 <T	BDL	BDL	BDL	BDL
JUL	.100 <T	.100 <T	.	.	BDL	BDL	1.000	BDL
AUG	BDL	BDL	.440 <T	BDL	BDL	BDL	.070 <T	BDL
SEP	BDL	.910	.260 <T	.060 <T	BDL	BDL	.710	BDL
OCT	BDL	BDL	.460 <T	BDL	BDL	BDL	.060 <T	BDL
NOV	BDL	BDL	.400 <T	.060 <T	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	.290 <T	BDL	BDL	.130 <T	BDL
COBALT (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = N/A			
JAN	.120 <T	.120 <T	.100 <T	.170 <T	.230 <T	.130 <T	.280 <T	.280 <T
FEB	.050 <T	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MAR	.140 <T	.150 <T	.150 <T	.170 <T	BDL	.140 <T	.170 <T	.150 <T
APR	.100 <T	.080 <T	.130 <T	BDL	.130 <T	BDL	BDL	BDL
MAY	.150 <T	.140 <T	.120 <T	.110 <T	.100 <T	.080 <T	1.100	.180 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
JUN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
JUL	.190 <T	.560 <T	.	.	.120 <T	.180 <T	.230 <T	.100 <T
AUG	.140 <T	.150 <T	.220 <T	.150 <T	.390 <T	.140 <T	.150 <T	.120 <T
SEP	.120 <T	.100 <T	.160 <T	BDL	.250 <T	.110 <T	.130 <T	.080 <T
OCT	.070 <T	.130 <T	.130 <T	.080 <T	.270 <T	.090 <T	.130 <T	.060 <T
NOV	.040 <T	BDL	BDL	.160 <T	.150 <T	.110 <T	.170 <T	.490 <T
DEC	.050 <T	.130 <T	BDL	.060 <T	.050 <T	.030 <T	BDL	BDL
CHROMIUM (UG/L)			DET'N LIMIT = 0.100		GUIDELINE = 50. (A1)			
JAN	.490 <T	2.700	1.400	.590 <T	2.000	BDL	.930 <T	.730 <T
FEB	1.300	.670 <T	2.900	13.000	.560 <T	.320 <T	4.000	2.500
MAR	1.400	1.900	7.400	4.400	16.000	6.100	1.900	3.000
APR	.240 <T	.190 <T	4.500	5.900	1.400	12.000	1.500	14.000
MAY	.310 <T	4.400	3.700	1.100	12.000	10.000	.260 <T	1.900
JUN	3.300	3.500	9.000	8.500	1.800	7.400	4.100	6.100
JUL	4.700	4.800	.	.	10.000	1.900	11.000	8.100
AUG	4.400	.400 <T	2.800	3.200	6.700	7.000	1.900	6.700
SEP	4.000	4.000	5.300	10.000	6.200	6.800	7.400	7.100
OCT	3.100	.930 <T	9.300	8.900	6.100	7.200	8.000	7.700
NOV	.190 <T	1.600	.340 <T	.130 <T	.660 <T	.170 <T	.190 <T	.230 <T
DEC	BDL	BDL	5.300	5.100	1.500 <T	6.000	.620 <T	BDL
COPPER (UG/L)			DET'N LIMIT = .100		GUIDELINE = 1000 (A3)			
JAN	.800 <T	1.700	39.000	11.000	1.200	1.400	590.000	220.000
FEB	1.100	.790 <T	650.000	330.000	2.100	1.600	450.000	100.000
MAR	1.100	1.400	150.000	52.000	1.100	1.200	450.000	160.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT								
FILTRATION PLANT								
SITE					VICTORIA ST			
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
APR	1.200	2.400	980.000	66.000	2.300	1.500	410.000	140.000
MAY	.960 <T	.880 <T	730.000	57.000	2.300	1.300	450.000	190.000
JUN	1.400	3.100	600.000	84.000	2.000	1.300	720.000	130.000
JUL	1.200	.950 <T	.	.	1.800	1.600	1100.000	270.000
AUG	.770 <T	3.800	99.000	11.000	1.600	1.300	850.000	130.000
SEP	.820 <T	3.200	1300.000 RRV	230.000	2.400	1.500	800.000	170.000
OCT	.690 <T	.560 <T	240.000	120.000	1.200	.920 <T	580.000	100.000
NOV	.860 <T	2.300	240.000	280.000	2.000	1.200	190.000	130.000
DEC	.750 <T	1.700 <T	190.000	2000.000	4.200 <T	1.700 <T	610.000	160.000
IRON (UG/L)			DET'N LIMIT = 4.000		GUIDELINE = 300. (A3)			
JAN	38.000 <T	18.000 <T	32.000 <T	25.000 <T	BDL	19.000 <T	110.000	23.000 <T
FEB	54.000	16.000 <T	49.000 <T	30.000 <T	BDL	BDL	38.000 <T	23.000 <T
MAR	36.000 <T	15.000 <T	38.000 <T	36.000 <T	BDL	BDL	120.000	18.000 <T
APR	110.000	BDL	250.000	13.000 <T	BDL	BDL	130.000	5.400 <T
MAY	78.000	5.400 <T	300.000	77.000	BDL	BDL	34.000 <T	31.000 <T
JUN	110.000	6.700 <T	11.000 <T	5.800 <T	BDL	BDL	76.000	17.000 <T
JUL	67.000	8.900 <T	.	.	BDL	6.200 <T	210.000	25.000 <T
AUG	75.000	20.000 <T	90.000	55.000	BDL	BDL	170.000	34.000 <T
SEP	68.000	8.000 <T	150.000	27.000 <T	BDL	BDL	180.000	31.000 <T
OCT	68.000	12.000 <T	180.000	52.000	BDL	BDL	160.000	20.000 <T
NOV	55.000	BDL	100.000	29.000 <T	5.200 <T	BDL	65.000	40.000 <T
DEC	61.000	BDL	140.000	130.000	BDL	BDL	170.000	18.000 <T
MERCURY (UG/L)			DET'N LIMIT = 0.010		GUIDELINE = 1.000 (A1)			
JAN	BDL	BDL	.	BDL	BDL	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
FEB	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAR	.040 <T	.030 <T	.	BDL	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	.020 <T	.	BDL	.020 <T	BDL	.	BDL
JUN	.020 <T	.020 <T	.	.020 <T	.030 <T	.020 <T	.	.020 <T
JUL	.060	.030 <T	.	.	.030 <T	.050 <T	.	.030 <T
AUG	.080	.060	.	.060	.090	.060	.	.270
SEP	.060	.050 <T	.	.030 <T	.060	.040 <T	.	.040 <T
OCT	.060	.050 <T	.	.090	.080	.060	.	.080
NOV	.060	.050 <T	.	.050 <T	.060	.040 <T	.	.040 <T
DEC	.060	.090	.	.110	.060	.090	.	.100
MANGANESE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 50.0 (A3)			
JAN	7.000	2.300	2.500	2.100	.130 <T	1.100	5.200	1.500
FEB	8.200	3.600	4.300	2.900	.110 <T	1.100	4.500	1.200
MAR	11.000	3.000	2.300	2.000	BDL	.910	4.700	1.100
APR	21.000	6.300	8.500	1.500	BDL	.780	5.100	1.300
MAY	21.000	2.000	5.400	3.100	BDL	1.200	6.300	3.800
JUN	39.000	3.000	2.900	2.600	1.400	1.500	4.200	2.200
JUL	30.000	5.400	.	.	22.000	6.000	10.000	5.500
AUG	37.000	14.000	14.000	7.500	41.000	4.800	7.800	5.900
SEP	42.000	2.100	5.900	7.500	53.000	4.900	8.900	3.800
OCT	32.000	5.100	11.000	4.200	31.000	3.800	6.900	2.900
NOV	22.000	1.600	7.200	2.400	.730	1.400	3.300	4.700
DEC	13.000	2.600	6.200	5.500	.260 <T	1.300	5.700	1.800
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = N/A			

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE			SITE 1				SITE 1	
TYPE	RAW	TREATED	STANDING	FREE FLOW	RAW	TREATED	STANDING	FREE FLOW
JAN	.320 <T	.400 <T	.440 <T	.340 <T	.170 <T	.190 <T	.240 <T	.170 <T
FEB	.350 <T	.410 <T	.390 <T	.520	.160 <T	.140 <T	.220 <T	.060 <T
MAR	.550	.520	.450 <T	.460 <T	.490 <T	.350 <T	.440 <T	.470 <T
APR	.310 <T	.310 <T	.420 <T	.270 <T	.790	.240 <T	.280 <T	.340 <T
MAY	.460 <T	.440 <T	.500 <T	.460 <T	.430 <T	.420 <T	.370 <T	.320 <T
JUN	.640	.720	.590	.420 <T	.420 <T	.520	.390 <T	.480 <T
JUL	.700	.610	.	.	.620	.640	.590	.660
AUG	.290 <T	.460 <T	.410 <T	.430 <T	.540	.550	.520	.500 <T
SEP	.650	.730	.670	.840	.770	.670	.670	.660
OCT	.430 <T	.460 <T	.450 <T	.340 <T	.320 <T	.280 <T	.240 <T	.320 <T
NOV	.320 <T	.570	.390 <T	.210 <T	.200 <T	.170 <T	.190 <T	.200 <T
DEC	.300 <T	.380 <T	.390 <T	.400 <T	.220 <T	.240 <T	.210 <T	.190 <T
NICKEL (UG/L)			DET'N LIMIT = 0.100		GUIDELINE = 50. (F3)			
JAN	.500 <T	.340 <T	.380 <T	.270 <T	.590 <T	.310 <T	.630 <T	1.200 <T
FEB	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MAR	.220 <T	BDL	BDL	BDL	BDL	BDL	BDL	BDL
APR	.190 <T	.110 <T	2.500	BDL	.340 <T	.460 <T	BDL	BDL
MAY	1.100 <T	1.300 <T	2.400	1.000 <T	1.600 <T	1.400 <T	3.300	.750 <T
JUN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
JUL	.360 <T	.310 <T	.	.	2.000 <T	1.100 <T	2.000 <T	1.600 <T
AUG	BDL	.370 <T	1.900 <T	BDL	.160 <T	BDL	.900 <T	BDL
SEP	.340 <T	.260 <T	37.000	BDL	.240 <T	BDL	.700 <T	BDL
OCT	BDL	BDL	.880 <T	.240 <T	.260 <T	BDL	.500 <T	BDL
NOV	1.200 <T	1.100 <T	2.900	.710 <T	1.600 <T	1.400 <T	1.700 <T	1.700 <T
DEC	.300 <T	BDL	BDL	7.400	.430 <T	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
LEAD (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 50. (A1)			
JAN	.190 <T	.100 <T	1.100	.230	.120 <T	.160 <T	2.100	.810
FEB	.400	.160 <T	1.600	2.200	BDL	BDL	.570	.520
MAR	.360	.370	2.000	.670	.100 <T	.230	2.000	.790
APR	.550	.190 <T	7.400	.650	1.300	.120 <T	2.000	.820
MAY	.340	.090 <T	8.400	.430	BDL	.060 <T	2.200	.800
JUN	.860	.260	2.300	1.000	.150 <T	.120 <T	2.100	.960
JUL	.510	.050 <T	.	.	.050 <T	BDL	3.800	1.600
AUG	.500	.060 <T	5.400	1.600	.120 <T	.110 <T	2.600	.790
SEP	.830	.290	49.000	4.200	.300	.450	3.600	1.300
OCT	.310	.380	5.900	3.400	.400	.150 <T	2.300	.500
NOV	.360	BDL	5.300	1.500	.160 <T	.080 <T	1.300	.900
DEC	.330 <T	.100 <T	5.100	23.000	.160 <T	.160 <T	1.500	.400 <T
ANTIMONY (UG/L)			DET'N LIMIT = .050		GUIDELINE = 146. (D4)			
JAN	.320	.480	.480	.500	.430	.430	.520	.410
FEB	.620	.450	.320	.540	.450	.420	.320	.430
MAR	.600	.560	.570	.640	.580	.570	.460	.510
APR	.460	.520	.600	.420	.970	.430	.500	.480
MAY	.730	.740	.720	.520	.610	.560	.720	.700
JUN	.770	.780	.780	.890	.680	.880	.930	.880
JUL	.810	1.600	.	.	.860	.860	.780	.960
AUG	.660	.740	.830	.690	.710	.700	.670	.680
SEP	.550	.480	.560	.550	.650	.590	.540	.460
OCT	.510	.800	.570	.510	.760	.580	.580	.620
NOV	.220	.390	.330	.380	.340	.350	.430	.330
DEC	.410 <T	.410 <T	.370 <T	.490 <T	.510	.400 <T	.470 <T	.510

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
SELENIUM (UG/L)			DET'N LIMIT = 0.200		GUIDELINE = 10. (A1)			
JAN	.330 <T	1.500 <T	1.700 <T	.490 <T	.630 <T	.630 <T	1.100 <T	1.200 <T
FEB	.720 <T	1.500 <T	.840 <T	.900 <T	.600 <T	1.500 <T	.600 <T	1.000 <T
MAR	3.500 <T	2.200 <T	4.100 <T	4.200 <T	2.100 <T	2.300 <T	2.800 <T	5.300 <T
APR	.520 <T	.310 <T	1.400 <T	1.400 <T	17.000	2.200 <T	BDL	2.800 <T
MAY	1.300 <T	1.900 <T	1.900 <T	.490 <T	1.800 <T	3.700 <T	1.500 <T	.700 <T
JUN	1.400 <T	1.800 <T	.850 <T	2.200 <T	2.800 <T	1.600 <T	3.400 <T	2.500 <T
JUL	1.600 <T	2.400 <T	.	.	1.900 <T	1.400 <T	2.100 <T	1.900 <T
AUG	2.400 <T	4.000 <T	3.100 <T	3.800 <T	3.600 <T	3.500 <T	4.200 <T	3.300 <T
SEP	BDL	BDL	1.200 <T	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	1.300 <T	BDL	BDL	BDL	1.100 <T
NOV	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
STRONTIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = N/A			
JAN	120.000	120.000	140.000	130.000	200.000	200.000	200.000	190.000
FEB	120.000	120.000	140.000	260.000	200.000	200.000	200.000	200.000
MAR	130.000	130.000	190.000	190.000	230.000	210.000	210.000	210.000
APR	130.000	130.000	140.000	200.000	200.000	190.000	200.000	190.000
MAY	120.000	120.000	120.000	120.000	180.000	200.000	170.000	130.000
JUN	130.000	130.000	210.000	210.000	200.000	200.000	200.000	200.000
JUL	130.000	130.000	.	.	190.000	190.000	200.000	190.000
AUG	140.000	130.000	140.000	140.000	170.000	180.000	170.000	180.000
SEP	140.000	140.000	160.000	240.000	180.000	200.000	190.000	180.000
OCT	130.000	140.000	200.000	200.000	190.000	210.000	210.000	210.000
NOV	130.000	130.000	150.000	200.000	200.000	200.000	200.000	200.000
DEC	140.000	140.000	190.000	190.000	220.000	220.000	220.000	220.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW	RAW	TREATED	SITE 1 STANDING	SITE 1 FREE FLOW
TITANIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = N/A			
JAN	6.700	6.300	6.300	7.600	9.600	11.000	11.000	11.000
FEB	5.900	4.900	4.100	10.000	7.600	8.700	6.900	9.400
MAR	6.800	6.300	11.000	10.000	10.000	12.000	11.000	10.000
APR	11.000	9.300	11.000	16.000	16.000	17.000	16.000	15.000
MAY	7.800	6.500	7.900	7.300	11.000	13.000	11.000	8.300
JUN	11.000	8.500	19.000	18.000	17.000	19.000	19.000	18.000
JUL	11.000	8.600	.	.	12.000	13.000	14.000	14.000
AUG	10.000	7.800	8.700	8.100	9.200	11.000	9.900	10.000
SEP	8.200	7.000	8.700	13.000	11.000	12.000	12.000	11.000
OCT	6.500	5.200	9.000	9.700	9.500	9.400	11.000	9.200
NOV	5.100	2.800	5.300	8.700	7.200	9.300	9.500	9.500
DEC	6.100	4.800 <T	7.200	7.300	8.500	9.100	9.900	9.700
THALLIUM (UG/L)			DET'N LIMIT = .010		GUIDELINE = 13. (D4)			
JAN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
FEB	.030 <T	.020 <T	BDL	.040 <T	BDL	BDL	BDL	BDL
MAR	.020 <T	.070 <T	.020 <T	BDL	.040 <T	BDL	.080 <T	.080 <T
APR	.140 <T	.190 <T	.320	.150 <T	1.300	.180 <T	.160 <T	.140 <T
MAY	.020 <T	.020 <T	.040 <T	BDL	.040 <T	.060 <T	BDL	BDL
JUN	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
JUL	BDL	.020 <T	.	.	BDL	.050 <T	BDL	.020 <T
AUG	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL	.030 <T	BDL
OCT	BDL	BDL	BDL	BDL	.020 <T	.020 <T	BDL	BDL
NOV	BDL	BDL	BDL	BDL	.020 <T	BDL	.020 <T	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE			SITE 1				SITE 1	
TYPE	RAW	TREATED	STANDING	FREE FLOW	RAW	TREATED	STANDING	FREE FLOW
URANIUM (UG/L)			DET'N LIMIT = .020		GUIDELINE = 100.(81)			
JAN	.250	.270	.510	.530	.540	.690	.630	.670
FEB	.220	.100 <T	.410	2.600	.500	.550	.540	.450
MAR	.440	.330	.540	.610	.730	.700	.850	.770
APR	.320	.080 <T	.350	.700	1.600	.690	.650	.590
MAY	.290	.220	.520	.270	.550	.620	.610	.300
JUN	.440	.140 <T	.860	.710	.580	.760	.690	.640
JUL	.400	.270	.	.	.690	.820	.750	.760
AUG	.420	.110 <T	.170 <T	.150 <T	.590	.640	.690	.620
SEP	.390	.060 <T	.620	2.200	.580	.760	.680	.630
OCT	.190 <T	.090 <T	.880	.470	.330	.420	.400	.370
NOV	.200 <T	.130 <T	.480	.460	.410	.560	.410	.510
DEC	.270 <T	.140 <T	.990	.840	.480 <T	.560	.590	.510
VANADIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = N/A			
JAN	.190 <T	.920	.930	.910	.240 <T	.260 <T	.290 <T	.230 <T
FEB	.210 <T	1.300	.400 <T	.470 <T	BDL	BDL	BDL	BDL
MAR	.220 <T	1.200	.480 <T	.510	.270 <T	.150 <T	.110 <T	.140 <T
APR	.340 <T	1.500	1.000	.280 <T	.250 <T	.100 <T	.130 <T	.160 <T
MAY	.410 <T	1.300	1.200	1.100	.210 <T	.220 <T	.310 <T	.770
JUN	.680	1.300	.660	.540	.290 <T	.320 <T	.300 <T	.360 <T
JUL	.800	1.800	.	.	.500 <T	.490 <T	.530	.630
AUG	.920	2.000	1.500	1.700	.310 <T	.320 <T	.360 <T	.460 <T
SEP	.670	1.400	.820	.870	.360 <T	.290 <T	.340 <T	.370 <T
OCT	.500 <T	1.400	.670	.570	.310 <T	.340 <T	.300 <T	.380 <T
NOV	.340 <T	1.200	.500 <T	.440 <T	.170 <T	.160 <T	.170 <T	.210 <T
DEC	.400 <T	1.300	.720	.630	.490 <T	.480 <T	BDL	.120 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
ZINC (UG/L)			DET'N LIMIT = .001		GUIDELINE = 5000. (A3)			
JAN	1.500	2.100	13.000	3.900	1.400	1.800	210.000	43.000
FEB	1.400	1.500	150.000	100.000	1.000 <T	1.300	160.000	28.000
MAR	4.000	2.100	43.000	19.000	.860 <T	1.300	160.000	29.000
APR	2.400	2.900	170.000	18.000	3.200	2.500	150.000	39.000
MAY	1.700	1.100	210.000	18.000	1.800	1.400	72.000	53.000
JUN	2.500	3.900	46.000	22.000	1.700	1.900	86.000	32.000
JUL	2.000	1.800	.	.	1.300	2.200	220.000	51.000
AUG	1.200	3.500	35.000	10.000	.680 <T	.950 <T	210.000	36.000
SEP	1.800	7.900	130.000	28.000	1.100	1.400	230.000	57.000
OCT	1.500	1.300	190.000	21.000	.560 <T	.570 <T	170.000	26.000
NOV	1.700	1.500	170.000	29.000	2.100	2.200	88.000	45.000
DEC	1.700 <T	2.400	18.000	160.000	.870 <T	1.700 <T	190.000	33.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE								
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
PHENOLICS (UG/L)	CHLOROPHENOLS		DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)			
JAN	2.000	2.400	.	.	.600 <T	BDL	.	.
FEB	4.200	3.600	.	.	1.600	1.200	.	.
MAR	2.400	1.200	.	.	.800 <T	.600 <T	.	.
APR	4.200	2.800	.	.	.800 <T	.600 <T	.	.
MAY	3.000	3.000	.	.	1.000 <T	1.400	.	.
JUN	1.600	11.600	.	.	1.000	5.600	.	.
JUL	1.600	1.600	.	.	.800 <T	.600 <T	.	.
AUG	2.200	2.000	.	.	1.000	1.600	.	.
SEP	4.600	2.000	.	.	3.000	2.200	.	.
OCT	3.800	2.200	.	.	.600 <T	.600 <T	.	.
NOV	1.400	.800 <T	.	.	.400 <T	1.600	.	.
DEC	1.400	1.600	.	.	.600 <T	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
PESTICIDES & PCB								
ALPHA BHC (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)			
JAN	BDL	1.000 <T	.	1.000 <T	BDL	BDL	.	BDL
FEB	BDL	1.000 <T	.	BDL	BDL	BDL	.	BDL
MAR	2.000 <T	1.000 <T	.	BDL	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUN	BDL	2.000 <T	.	BDL	BDL	BDL	.	BDL
JUL	BDL	BDL	.	.	BDL	BDL	.	BDL
AUG	BDL	BDL	.	BDL	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL	BDL	BDL	.	BDL
OCT	IQU	IQU	.	IQU	IQU	IQU	.	IQU
NOV	BDL	2.000 <T	.	BDL	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL	BDL	BDL	.	BDL
LINDANE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 4000 (A1)			
JAN	BDL	1.000 <T	.	BDL	BDL	BDL	.	BDL
FEB	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUN	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUL	BDL	BDL	.	.	BDL	BDL	.	BDL
AUG	BDL	BDL	.	BDL	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL	BDL	BDL	.	BDL
OCT	IQU	IQU	.	IQU	IQU	IQU	.	IQU
NOV	BDL	BDL	.	BDL	BDL	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
DEC	BDL	BDL	.	BDL	BDL	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
	VOLATILES							
BENZENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 5.0 (81)			
JAN	BDL	BDL	.	BDL	BDL	BDL	.	BDL
FEB	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUN	.050 <T	BDL	.	.050 <T	BDL	.100 <T	.	BDL
JUL	BDL	BDL	.	.	BDL	BDL	.	BDL
AUG	BDL	BDL	.	BDL	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL	BDL	BDL	.	.
NOV	BDL	BDL	.	BDL	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL	BDL	BDL	.	BDL
TOLUENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 24.0 (84)			
JAN	BDL	BDL	.	.050 <T	.050 <T	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.100 <T	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.050 <T	BDL	.	BDL
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	.050 <T	.	BDL	BDL	BDL	.	BDL
JUN	BDL	BDL	.	.100 <T	.100 <T	.100 <T	.	.050 <T
JUL	BDL	.100 <T	.	.	BDL	BDL	.	BDL
AUG	BDL	.100 <T	.	BDL	BDL	BDL	.	.100 <T
SEP	BDL	BDL	.	BDL	.050 <T	BDL	.	BDL
OCT	BDL	BDL	.	BDL	BDL	BDL	.	.
NOV	BDL	BDL	.	BDL	BDL	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
DEC	BDL	BDL	.	BDL	BDL	BDL	.	BDL
ETHYLBENZENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 2.4 (B4)			
JAN	BDL	BDL	.	.050 <T	.100 <T	BDL	.	.050 <T
FEB	BDL	.050 <T	.	BDL	.150 <T	BDL	.	BDL
MAR	BDL	BDL	.	.050 <T	.050 <T	BDL	.	BDL
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.100 <T	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.050 <T	BDL	.	.050 <T
JUL	BDL	BDL	.	.	BDL	BDL	.	BDL
AUG	BDL	.050 <T	.	BDL	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL	BDL	BDL	.	.
NOV	BDL	BDL	.	BDL	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL	BDL	BDL	.	BDL
STYRENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 46.5 (D2)			
JAN	.250 <T	.050 <T	.	.250 <T	.550 UCS	.150 <T	.	.350 <T
FEB	.200 <T	BDL	.	BDL	.850 UCS	.150 <T	.	BDL
MAR	.200 <T	.050 <T	.	.250 <T	.300 <T	.100 <T	.	.150 <T
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	.100 <T	.650 UCS	BDL	.	.050 <T
JUN	BDL	.250 <T	.	.250 <T	.350 <T	.050 <T	.	.200 <T
JUL	BDL	.200 <T	.	.	.450 <T	.250 <T	.	.100 <T
AUG	BDL	.200 <T	.	.150 <T	.250 <T	.200 <T	.	.250 <T
SEP	BDL	BDL	.	.150 <T	.100 <T	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
OCT	BDL	BDL	.	.100 <T	.050 <T	.100 <T	.	.
NOV	BDL	BDL	.	.050 <T	BDL	BDL	.	BDL
DEC	BDL	.100 <T	.	.100 <T	BDL	.050 <T	.	.100 <T
CHLOROFORM (UG/L)			DET'N LIMIT = .100		GUIDELINE = 350 (A1+)			
JAN	BDL	75.200	.	42.600	BDL	15.300	.	10.800
FEB	BDL	41.000	.	12.700	BDL	14.300	.	12.000
MAR	.100 <T	58.200	.	23.800	.500 <T	13.000	.	12.000
APR	.300 <T	20.700	.	11.900	.400 <T	14.700	.	10.100
MAY	BDL	76.000	.	75.400	.100 <T	11.700	.	77.000
JUN	BDL	130.000	.	11.100	BDL	12.400	.	21.300
JUL	BDL	143.500	.	.	BDL	11.900	.	22.400
AUG	BDL	124.000	.	109.000	BDL	17.400	.	29.600
SEP	BDL	111.000	.	48.000	BDL	16.600	.	24.500
OCT	.100 <T	96.000	.	13.300	BDL	BDL	.	.
NOV	BDL	78.600	.	12.700	.200 <T	9.000	.	8.000
DEC	BDL	79.500	.	50.000	.200 <T	6.900	.	5.300
111, TRICHLOROETHANE (UG/L)			DET'N LIMIT = .020		GUIDELINE = 200 (D1)			
JAN	BDL	BDL	.	BDL	BDL	BDL	.	BDL
FEB	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAR	.020 <T	BDL	.	BDL	.040 <T	BDL	.	BDL
APR	.020 <T	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUN	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUL	BDL	BDL	.	.	BDL	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT	FILTRATION PLANT				VICTORIA ST			
SITE			SITE 1				SITE 1	
TYPE	RAW	TREATED	STANDING	FREE FLOW	RAW	TREATED	STANDING	FREE FLOW
AUG	.260	BDL	.	.080 <T	.020 <T	BDL	.	.080 <T
SEP	BDL	.060 <T	.	.240	BDL	BDL	.	.020 <T
OCT	.100 <T	.060 <T	.	.040 <T	BDL	.020 <T	.	.
NOV	BDL	BDL	.	BDL	BDL	BDL	.	BDL
DEC	.040 <T	BDL	.	BDL	BDL	BDL	.	BDL
DICHLOROBROMOMETHANE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 350 (A1+)			
JAN	BDL	7.000	.	4.650	BDL	9.200	.	6.050
FEB	BDL	4.200	.	5.450	BDL	7.500	.	6.350
MAR	BDL	5.550	.	5.400	.300 <T	8.950	.	7.050
APR	BDL	2.050	.	4.100	.200 <T	5.700	.	4.200
MAY	BDL	4.700	.	4.450	BDL	6.800	.	5.100
JUN	BDL	6.400 APS	.	5.000	BDL	6.050	.	5.550
JUL	BDL	7.400	.	.	BDL	6.000	.	4.800
AUG	BDL	8.600	.	8.350	BDL	8.600	.	7.600
SEP	BDL	9.500	.	5.600	BDL	8.100	.	7.350
OCT	BDL	8.500	.	6.000	BDL	.100 <T	.	.
NOV	BDL	5.750	.	3.100	BDL	5.900	.	4.800
DEC	BDL	BDL	.	4.500	BDL	4.100	.	3.200
CHLORODIBROMOMETHANE (UG/L)			DET'N LIMIT = .100		GUIDELINE = 350 (A1+)			
JAN	BDL	.400 <T	.	.400 <T	BDL	3.300	.	1.800
FEB	BDL	.200 <T	.	1.800	BDL	2.600	.	2.200
MAR	BDL	.300 <T	.	1.600	.200 <T	3.600	.	2.700
APR	BDL	BDL	.	2.000	BDL	2.300	.	1.400
MAY	BDL	BDL	.	.300 <T	BDL	2.600	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT								
FILTRATION PLANT					VICTORIA ST			
SITE								
	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
TYPE			STANDING	FREE FLOW			STANDING	FREE FLOW
JUN	BDL	BDL	.	1.400	BDL	1.800	.	1.400
JUL	BDL	BDL	.	.	BDL	1.800	.	1.300
AUG	BDL	.500 <T	.	.500 <T	BDL	2.300	.	2.100
SEP	BDL	.800 <T	.	1.100	BDL	2.400	.	1.900
OCT	BDL	BDL	.	1.700	BDL	BDL	.	.
NOV	BDL	.200 <T	.	1.100	BDL	2.200	.	1.700
DEC	BDL	.400 <T	.	.700 <T	BDL	1.300	.	1.300
T-CHLOROETHYLENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 10.0 (C2)			
JAN	BDL	.050 <T	.	BDL	BDL	BDL	.	BDL
FEB	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUN	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUL	BDL	BDL	.	.	BDL	BDL	.	BDL
AUG	BDL	BDL	.	BDL	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL	BDL	BDL	.	BDL
OCT	BDL	BDL	.	BDL	BDL	.050 <T	.	.
NOV	BDL	BDL	.	BDL	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL	BDL	BDL	.	BDL
BROMOFORM (UG/L)			DET'N LIMIT = .200		GUIDELINE = 350 (A1+)			
JAN	BDL	BDL	.	BDL	BDL	.200 <T	.	BDL
FEB	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAR	BDL	BDL	.	BDL	BDL	BDL	.	.200 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT								
FILTRATION PLANT								
SITE					VICTORIA ST			
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1	
			STANDING	FREE FLOW			STANDING	FREE FLOW
APR	BDL	BDL	.	BDL	BDL	BDL	.	BDL
MAY	BDL	BDL	.	BDL	BDL	.200 <T	.	BDL
JUN	BDL	BDL	.	BDL	BDL	BDL	.	BDL
JUL	BDL	BDL	.	.	BDL	BDL	.	BDL
AUG	BDL	BDL	.	BDL	BDL	BDL	.	BDL
SEP	BDL	BDL	.	BDL	BDL	.200 <T	.	BDL
OCT	BDL	.400 <T	.	BDL	BDL	BDL	.	.
NOV	BDL	BDL	.	BDL	BDL	BDL	.	BDL
DEC	BDL	BDL	.	BDL	BDL	BDL	.	BDL
TOTL TRIHALOMETHANES (UG/L)			DET'N LIMIT = .500		GUIDELINE = 350 (A1)			
JAN	BDL	82.600	.	47.650	BDL	28.000	.	18.650
FEB	BDL	45.400	.	19.950	BDL	24.400	.	20.550
MAR	BDL	64.050	.	30.800	1.000 <T	25.550	.	21.950
APR	BDL	22.750	.	18.000	.600 <T	22.700	.	15.700
MAY	BDL	80.700	.	80.150	BDL	21.300	.	82.100
JUN	BDL	136.400	.	17.500	BDL	20.250	.	28.250
JUL	BDL	150.900	.	.	BDL	19.700	.	28.500
AUG	BDL	133.100	.	117.850	BDL	28.300	.	39.300
SEP	BDL	121.300	.	55.700	BDL	27.300	.	33.750
OCT	BDL	104.900	.	21.000	BDL	BDL	.	.
NOV	BDL	84.550	.	16.900	BDL	17.100	.	14.500
DEC	BDL	79.850	.	55.150	BDL	12.300	.	9.800

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM TRENTON 1989

PLANT							
FILTRATION PLANT							
SITE				VICTORIA ST			
TYPE	RAW	TREATED	SITE 1		RAW	TREATED	SITE 1
			STANDING	FREE FLOW			STANDING	FREE FLOW

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML (A1)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL (A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	10.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	20.	2000. (B4)
PENTACHLOROPHENOL	NG/L	50.	30000. (B4)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5 (A4)
FIELD TEMPERATURE	^{o}C	N/A	<15 ^{o}C (A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500 (A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20 (A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100 (A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
SULPHATE	MG/L	.200	500. (A3)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
PESTICIDES & PCB			
ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000.	(A1)
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A	
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A	
BENZO(B)CHRYSENE	NG/L	2.0	N/A	
CORONENE	NG/L	10.0	N/A	
SPECIFIC PESTICIDES				
TOXAPHENE	NG/L	N/A	5000.	(A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000.	(B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000.	(A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000.	(B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A	
DICAMBA	NG/L	100.	120000.	(B1)
PICLORAM	NG/L	100.	190000.	(B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000.	(A1)
DIAZINON	NG/L	20.	20000.	(B1)
DICHLOROVOS	NG/L	20.	N/A	
DURSBAN	NG/L	20.	N/A	
ETHION	NG/L	20.	35000.	(G)
GUTHION(AZINPHOSMETHYL)	NG/L	N/A	20000.	(B1)
MALATHION	NG/L	20.	190000.	(B1)
MEVINPHOS	NG/L	20.	N/A	
METHYL PARATHION	NG/L	50.	7000.	(A1)
METHYLTRITHION	NG/L	20.	N/A	

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
PARATHION	NG/L	20.	50000. (B1)
PHORATE (THIMET)	NG/L	20.	2000. (B3)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	90000. (B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALLATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	90000. (B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)
VOLATILES			
BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHLYENE DIBROMIDE	UG/L	.05	.05 G)
METHYLENE CHLORIDE	UG/L	.500	50. (B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70. (D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0 (D5)
TRICHLOROETHYLENE	UG/L	.100	50. (B1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17(D4)
CHLOROBENZENE	UG/L	.100	60. (D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0 (B4)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0 (B4)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	140. (D5)

Appendix A

DRINKING WATER SURVEILLANCE PROGRAM

The Drinking Water Surveillance Program (DWSP) for Ontario monitors drinking water quality at municipal water supply systems. The DWSP Database Management System provides a computerized drinking water quality information system for the supplies monitored. The objectives of the program are to provide:

- immediate, reliable, current information on drinking water quality,
- a flagging mechanism for 'Objective' exceedence,
- a definition of contaminant levels and trends,
- a comprehensive background for remedial action,
- a framework for assessment of new contaminants,
- and an indication of treatment efficiency of plant processes.

Program

The DWSP officially began in April 1986 and is designed to eventually include all municipal water supplies in Ontario; currently 44 plants are being monitored. Water supply locations have been prioritized for surveillance, based primarily on criteria such as population density, probability of contamination and geographical location.

An ongoing assessment of future monitoring requirements at each location will be made. Monitoring will continue at the initial locations at an appropriate level and further locations will be phased into the program as resources permit. It is estimated that after 4 years of operation, the program will be monitoring 90 locations.

A major goal of the program is to collect valid water quality data, in context with plant operational characteristics at the time of sampling. As soon as sufficient data have been accumulated and analysed, both the frequency of sampling and the range of parameters may be adjusted accordingly.

Assessments are carried out at all locations prior to initial sampling in order to acquire complete plant process and distribution system details, and to designate (and retrofit if necessary) all sampling systems and locations. This ensures that the sampled water is a reflection of the water itself.

Samples are taken of the raw (ambient water) and the treated water at the treatment plant, and of consumer's tap water in the distribution system. In order to determine possible effects of distribution on water quality, both standing and free flow water in old and new sections of the distribution system are sampled.

Sampling is carried out by operational personnel who have been trained in the applicable procedures.

Comprehensive standardized procedures and Field Test kits are supplied to sampling personnel. This ensures that samples are taken and handled according to standard protocols and that field testing will supply reliable data. All field and laboratory analyses are carried out using "approved documented procedures". All laboratory analyses are carried out by the MOE Laboratory Services Branch.

Data Reporting Mechanism

When the analytical results are transferred from the MOE laboratory into the DWSP system, printouts of the completed analyses are sent to the MOE District Officer, the appropriate operational staff and are also retained by the DWSP co-ordinator.

DWSP INPUTS AND OUTPUTS

The DWSP INPUTS and OUTPUTS are illustrated in Fig. 1.

PROGRAM INPUTS

PLANT AND DISTRIBUTION SYSTEM DESCRIPTION

The system description includes plant specific non-analytical information acquired through a questionnaire and initial plant

visit. During the initial assessment of the plant and distribution system the questionnaire content is verified and missing information added. It is intended that all data be kept current with scheduled annual updates.

The PLANT and DISTRIBUTION SYSTEM DESCRIPTION consists of the following seven components.

1. Process component inventory

All physical and chemical processes that the water is subjected to, from the intake pipe to the consumers' tap (where possible), are documented. These include: process type, general description of physical structures, material types, sizes, and retention time for each process within the plant. The processes may be as simple as transmission or as complex as carbon adsorption.

2. Treatment chemicals

Chemicals used in the treatment processes, their function, application point, supplier and brand-name are recorded. The chemical dosages applied on the day of sampling are recorded in DWSP.

3. Process control measurements

Documentation of in-plant monitoring of process parameters (turbidity, chlorine residuals, pH, aluminum residuals) including methods used, monitoring locations and frequency is contained in

this section. In-plant monitoring results are generally not retained in DWSP but are retained by the Water Treatment Plant.

4. Design flow and retention time

The hydraulic capacity, designed and actual, is noted here. Retention time (the time that a block of water is retained in the plant) is also noted. The maximum, minimum and average flow as well as a record of the flow rate on the day of sampling are recorded in DWSP.

5. Distribution system description

This area includes the storage and transmission characteristics of the distribution system after the water leaves the plant.

6. Sampling system

Each plant is assessed for its adequacy in terms of sampling of bacteriological, organic and inorganic parameters. The prime considerations in the assessment and design of the sampling system are:

i/ the sample is an accurate representation of the actual water condition, eg. raw water has had no chemical treatment;

ii/ the water being sampled is not being modified by the sampling system;

iii/ the sample tap must be in a clean area of the plant,

preferably a lab area;

iv/ the sample lines must be organically inert (no plastic, ideally stainless steel).

It is imperative that the sampled water be a reflection not of the sampling system but of the water itself.

The sampling system documentation includes: origin of the water; date sampling was initiated; size, length and material type (intake, discharge and tap), pump characteristics (model, type, capacity) and flow rate.

7. People

This section contains the names, addresses and phone numbers of current plant management and operational staff, distribution system management and operational staff, Medical Officer of Health and appropriate Ministry of Environment personnel associated with the plant.

FIELD DATA

The second major input to DWSP is field data.

Field data is collected at the plant and from the distribution system sites on the day of sampling. The field data consists of general operating conditions and the results of testing for field parameters. General operating conditions include chemicals used,

dosages, flow and retention time on the day of sampling as well as monthly maximum, minimum and average flows. Field parameters include turbidity, chlorine residuals (free,combined and total), temperature and pH. These parameters are analysed according to standardized DWSP protocols to allow for interplant comparison.

LABORATORY ANALYTICAL DATA

The third major input to DWSP is Laboratory Analytical Data.

Samples gathered from the raw, treated and distribution sampling sites are analyzed for approximately 180 parameters at a frequency of two to twelve times per year. Sixty-five percent of the parameters are organic. The parameters measured may have health or aesthetic implications when present in drinking water. Many of the parameters may be used in the treatment process or may be treatment by-products. Due to the nature of certain analytical instruments parameters may be measured for in a "scan" producing some results for parameters that are not on the DWSP priority list but which may be of interest. The majority of the parameters are measured on a routine basis however, those that are technically more difficult and/or costly to analyse for are done less frequently. These include Specific Pesticides and Chlorophenols.

Although the parameter list is extensive, additional parameters with the potential to cause health or aesthetic related problems

may be added provided reliable analytical and sampling methods exist.

All laboratory generated data is derived from standardized, documented analytical protocols. The analytical method is an integral part of the data and as methods change notation will e be made and intercomparison data documented.

PARAMETER REFERENCE INFORMATION

The fourth major input to DWSP is Parameter Reference Information. This is a catalogue of information for each substance analysed on DWSP. It includes parameter name and aliases, physical and chemical properties, basic toxicology, world-wide health limits, treatment methods and uses. The Parameter Reference Information is computerized and can be accessed through the Query function of the DWSP database.

An example is shown in fig. 2.

A written copy (hard version) of the Parameter Reference Information will be available in the near future and is a new and sophisticated enhancement to the DWSP.

PROGRAM OUTPUTS

There are four major program outputs, Query, Action Alert, Report Generation and the Annual Report.

QUERY

All DWSP information is easily accessed through the Query function, therefore anything from addresses of plant personnel to complete water quality information for a plant's water supply is instantly available. The DWSP computer system makes relatively complex inquiries manageable. A personal password allowing access into the DWSP query mode in all MOE offices is being developed by the DWSP group.

ACTION ALERTS

Drinking Water quality in Ontario is evaluated against provincial objectives as outlined in the publication, Ontario Drinking Water Objectives (ISBN 0-7729-2725-1 revised 1983). This publication contains health-related Maximum Acceptable Concentrations for thirty substances. Should the reported level of a substance in treated water exceed the Ontario Drinking Water Objective an "Action Alert" requiring resampling and confirmation is issued. This assures that operational staff, health authorities and the public are notified as soon as possible of confirmation of an exceedance and remedial action taken. This report supplies a history of the occurrence of past exceedences at the plant plus a historical summary on the parameter of concern.

In the absence of Ontario Drinking Water Objectives, other agency guidelines which are documented in the Parameter Reference

Information may be used. If these guidelines are exceeded the results are flagged and evaluated by DWSP personnel. An "Action Alert" will be issued if warranted.

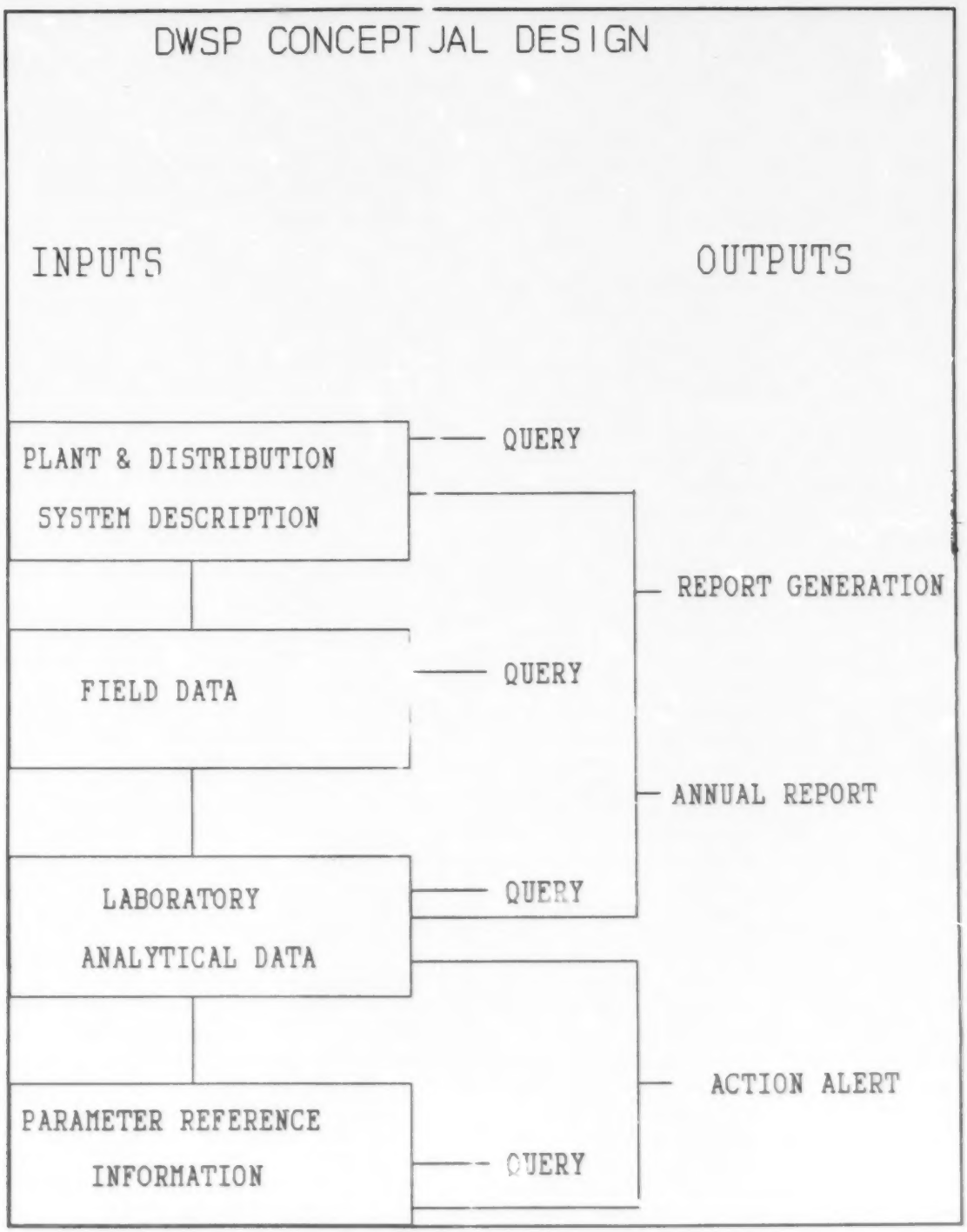
REPORT GENERATION

Custom reports can be generated from DWSP to meet the needs of the regions and to respond to public requests.

ANNUAL REPORTS

It is the practice of DWSP to produce an annual report containing analytical data along with companion plant information.

FIG. 1


DWSP CONCEPTJAL DESIGN
INPUTS
OUTPUTS
PLANT & DISTRIBUTION
SYSTEM DESCRIPTION
QUERY
REPORT GENERATION
FIELD DATA
QUERY
ANNUAL REPORT
LABORATORY
ANALYTICAL DATA
QUERY
ACTION ALERT
PARAMETER REFERENCE
INFORMATION
QUERY